# South County Bike Facilities Wickford Junction to Wickford Village Bike Path

# North Kingstown, Rhode Island

Prepared for State of Rhode Island Department of Transportation

Providence, Rhode Island

Prepared by **VHB/Vanasse Hangen Brustlin, Inc.** 

Providence, Rhode Island

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Project Description

# **Project Description**

## **Background**

The Newport & Wickford RR and Steamboat Company originally constructed the railroad spur in 1871 to carry passengers and freight from the New York, Boston & Providence RR at Wickford Junction to the steamboat ferry terminal in Wickford Village. The railroad serviced passengers on this line until approximately World War 1. The New York, New Haven and Hartford RR took over the freight service abandoning the line in 1962.

The State of Rhode Island Department of Transportation (RIDOT) commissioned, at the request of the Town of Narragansett and the Town of North Kingstown, a study to evaluate the feasibility of developing bicycle facilities within these communities. The results of this Feasibility Study, titled West Bay Bikeway and completed in January 1999, recommended several Short-Range and Long-Range projects be implemented. The Short-Range projects concentrated on providing signing and striping improvements along with minor roadway improvements to develop on-road bike routes to better accommodate bicycle traffic. The utilization of the abandoned Wickford Junction RR Spur as a multi-use path was listed as a Long-Range project to connect the Wickford Junction area to the Wickford Village and the existing network of bicycle paths.

The Wickford Junction Bike Path was included under the Preliminary Evaluation/Feasibility Study category of the FY 2001-2002 Transportation Improvement Program (TIP). Projects that go through this preliminary evaluation phase are scoped and assessed in terms of environmental impact, community acceptability, and constructability, reasonable construction costs are also developed.

# **Project Purpose**

A 2003 Urban Mobility Study developed by Tim Lomax and David Schrank of the Texas Transportation Institute details the increasing costs of traffic congestion across the United States, totaling 3.5 billon hours of lost productivity at a cost of \$69.5 billon in 2001. This represents a \$4.5 billon increase from the previous year. The study discusses the need to implement a variety of solutions to ease the impacts of increasing traffic.

As conventional transportation solutions to increase capacity become more costly and restrictive, alternative approaches to improve efficiency and decrease demand on the roadway system are being implemented. Implementing a combination of solutions, including various operational treatments and public transit improvements, as well as, facilitating bicycle and other non-vehicular modes of traffic can alleviate congestion on the roadways, decrease the amount of fuel wasted and improve the reliability of the areas transportation network.

The University of Rhode Island Transportation Center in conjunction with the Rhode Island Department of Transportation has completed a research project titled 'Bicycle Transportation User Survey Developing Intermodal Connections for the 21st Century'. To view the results of this survey, visit URITC's web site at <a href="https://www.uritc.uri.edu">www.uritc.uri.edu</a>. The purpose of this research project is to develop, analyze and disseminate a comprehensive bicycle user survey that will provide key insights into the factors that encourage and/or discourage bicycle use as an alternative travel mode in the State of Rhode Island. The recommendations of this study, once available, should be incorporated into the final design of the proposed multi-use path to ensure specific user preferences are considered in the projects approach.

The Town of North Kingstown's Comprehensive Plan outlines several goals pertaining to the development of bicycle facilities including to improve the availability and utilization of alternative transportation modes, to minimize the impacts of development on secondary roadways and to provide a wide range of recreation facilities and opportunities to meet the needs of all residents. Pursuant to achieving these goals the Comprehensive Plan detailed the following Objectives and Actions:

- Provide bicycle and pedestrian connections between residential areas and the village center
- Encourage linkage of neighborhoods to other land uses and neighborhoods through roadway connections, pedestrian walkways and bike paths
- Develop a transit center at Wickford Junction
- Develop alternative modes of transit in Wickford that would minimize need for additional parking areas
- Develop a network of bikeways to connect existing and planned recreational facilities and open spaces throughout the community
- Connect schools, residential areas, recreational areas and commercial areas via bikeways and walkways
- Connect open spaces by providing paths, trails and village greens for common use

The demand for bike paths within the Town of North Kingstown is further encouraged by the results of the 1999 Community and Business Survey in which citizens reported the first priority for spending on recreational facilities is the development of multi-use trails (hiking, jogging and biking) and that one quarter of resident would use a bike path weekly if available.

Realizing the importance the bike paths have as recreational and transportation alternatives to the Town of North Kingstown, RIDOT has hired Vanasse Hangen

Brustlin, Inc. (VHB) to study the feasibility of using the abandoned railroad spur corridor as a bicycle and pedestrian path between Wickford Junction and Wickford Village.

**Existing Conditions** 

# **Existing Conditions**

The Town of North Kingstown is located along the Narragansett Bay and borders the towns of East Greenwich, Exeter, South Kingstown and Narragansett. The population for The Town of North Kingstown as of April 1, 2000, was 26,326. This represented a 10.68% increase (2,540 persons) from the 1990 population of 23,786.

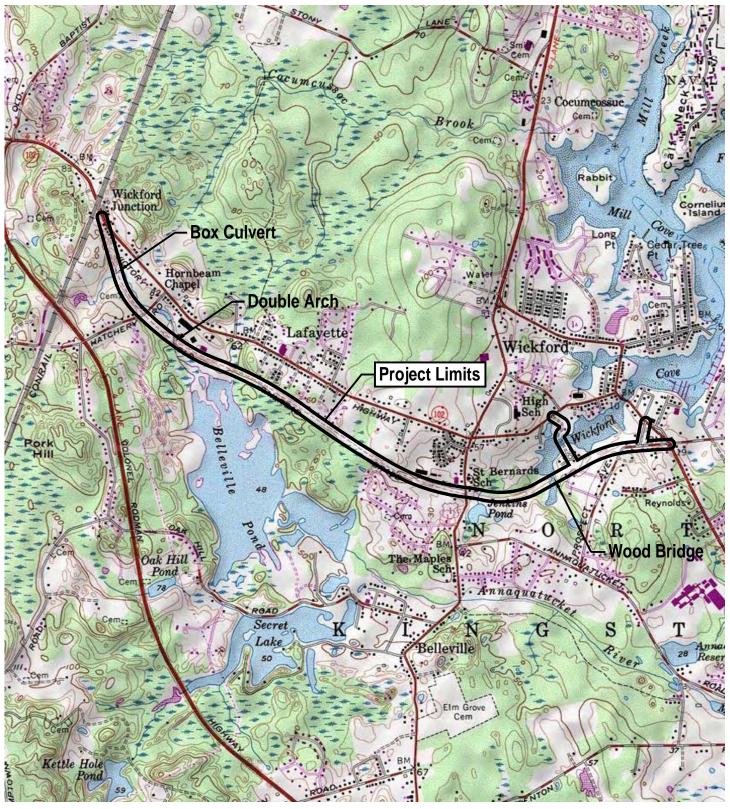
The project study area is depicted in the 'Location Map' Figure 1 with the surrounding roadway network. The project study area follows the abandoned railroad spur corridor, which runs east-west approximately 500 feet to 700 feet south of Ten Rod Road (Route 102) from Wickford Junction to Wickford Village. Wickford Junction, the area where the former Newport & Wickford railroad station once existed, is generally located at the crossing of Ten Rod Road with the existing Amtrak rail line. Wickford Village is a dense historic district surrounding Wickford Cove. The length of the proposed multi-use path along the abandoned railroad spur corridor is approximately 2.5 miles

## **Existing Roadways**

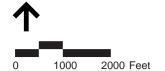
Ten Rod Road (Route 102) provides full vehicular access to both Route 4 and Route 2 west of the Amtrak railroad and is the main east-west roadway to Wickford Village. Ten Rod Road between Route 4 and Tower Hill Road is a two lane arterial with shoulder widths approximately four feet in width, intermittent curbing and a posted speed limit of 35 mph. Continuing east under the tracks, Ten Rod Road runs through areas of mixed commercial/residential use.

Ten Rod Road becomes Phillips Street east of Tower Hill Road and continues as a two lane arterial with shoulder widths approximately one to two feet in width, intermittent curbing and a posted speed limit of 25 mph. Phillips Street passes the North Kingstown Elementary School, playgrounds, public library and through a mixed use historic district area before terminating at the Brown Street/Boston Neck Road intersection. Boston Neck Road (Route 1A) is a north-south arterial roadway designated as a 'Scenic Route'.

Two public roadways traverse the study corridor, Lafayette Road and Tower Hill Road (Route 1). Lafayette Road runs south from Ten Rod Road through residential zoned area as a two-lane collector with shoulder widths of approximately two feet and no curbing. Tower Hill Road is a two lane arterial roadway with seven-foot wide shoulders and curbs with industrial, commercial and residential zoning surrounding the roadway. The posted speed limit for Lafayette Road is 25 mph and for Tower Hill Road is 30 mph.



Source: Wickford, RI (1975) U.S.G.S. Quadrangle



Project Location Map Figure 1
Wickford Junction Spur
South County Bicycle Facility Site Assessment Project
North Kingstown, Rhode Island

Vanasse Hangen Brustlin, Inc.

The Average Annual Daily Traffic (AADT) volumes for the various roadways within the study limits are presented in Table 1 with additional traffic volumes for area roadways presented on the RIDOT Traffic Flow Map provided in the Appendix.

Table 1
Existing Traffic Volumes (AADT)

Roadway Segment	AADT (Year)
Ten Rod Road from S. County Trail to Lafayette Road	14,000 (2000)*
Lafayette Road	2,200 (2003)**

Sources: \*Rhode Island Department of Transportation – Traffic Section
\*\* Automatic Traffic Recorder (ATR) counts conducted 7-27-03

## **Accident Analysis**

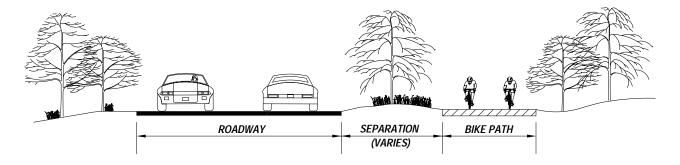
The past traffic accidents along several of the roadways within the study area were reviewed. Accident reports were obtained from the North Kingstown Police Department for the most recent three-year period from January 2000 to December 2002. A summary of the accident reports is presented in the Appendix.

## **Existing Bikeway Facilities**

Existing bikeways in and around the Town of North Kingstown provide transportation alternatives for the residents and visitors of the community. Bike paths and trails offer access to open spaces and recreational facilities, commercial areas, schools, and other neighborhoods and serves as a recreational facility for the area residents.

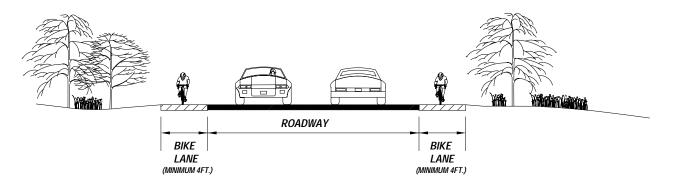
There are generally three different types of bicycle facilities: Bike Route, Bike Lane and Multi-Use Path (Bike Path). Figure 2 illustrates the differences between these facilities. Existing and planned bicycle facilities in various stages of development in and around the Town of North Kingstown are illustrated in Figure 3, as well as, the 'South County Bike Path' map and the 'Guide to Cycling in the Ocean State' map both provided in the Appendix.

Ten Rod Road and Tower Hill Road are not signed for use as a shared roadway bike route however both are designated as 'Suitable Roads' on the 'Guide to Cycling in the Ocean State' map indicating 'bicyclist will find less than adequate or no shoulders' along these roads. Vehicles traveling along Ten Rod Road regularly exceed the 35 mph speed limit, traveling in excess of 50 mph making the roadway an unattractive and dangerous bike route alternative.



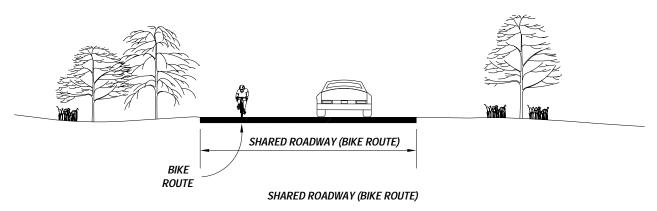
#### SHARED USE PATH (MULTI-USE PATH)

A PATH FOR THE EXCLUSIVE USE OF BICYCLISTS, PEDESTRIANS, ROLLER BLADES, ETC. PHYSICALLY SEPARATED FROM MOTORIZED VEHICULAR TRAFFIC EITHER WITHIN ON EXISTING RIGHT-OF-WAY OR ON A COMPLETELY NEW LOCATION



#### **BIKE LANE**

A PORTION OF A ROADWAY WHICH HAS BEEN DESIGNATED BY STRIPING, SIGNING, AND PAVEMENT MARKINGS FOR THE PREFERENTIAL OR EXCLUSIVE USE OF BICYCLISTS.



A SHARED RIGHT-OF-WAY WITH (BIKE ROUTE) OR WITHOUT SIGNING.

Vanasse Hangen Brustlin, Inc.

Figure 2 Bicycle Facilities South County Bike Path Assessment

The Department of Transportation has made improvements to Boston Neck Road (Route 1A) from the Town of North Kingstown Town Hall, located near the Reynolds Street intersection, south through the Town of Narragansett and continuing on Ocean Road to the Port of Galilee. These improvements included the erection of signing along the roadway to indicate the roadway is a 'Bike Route' and spot improvement to facilitate and encourage the roadways use as a shared roadway. The bike route has intermittent curbing and wide shoulders delineated by pavement striping. This bike route provides a continuous route for bicyclists to access many of the attractions in North Kingstown and Narragansett without utilizing their vehicles.

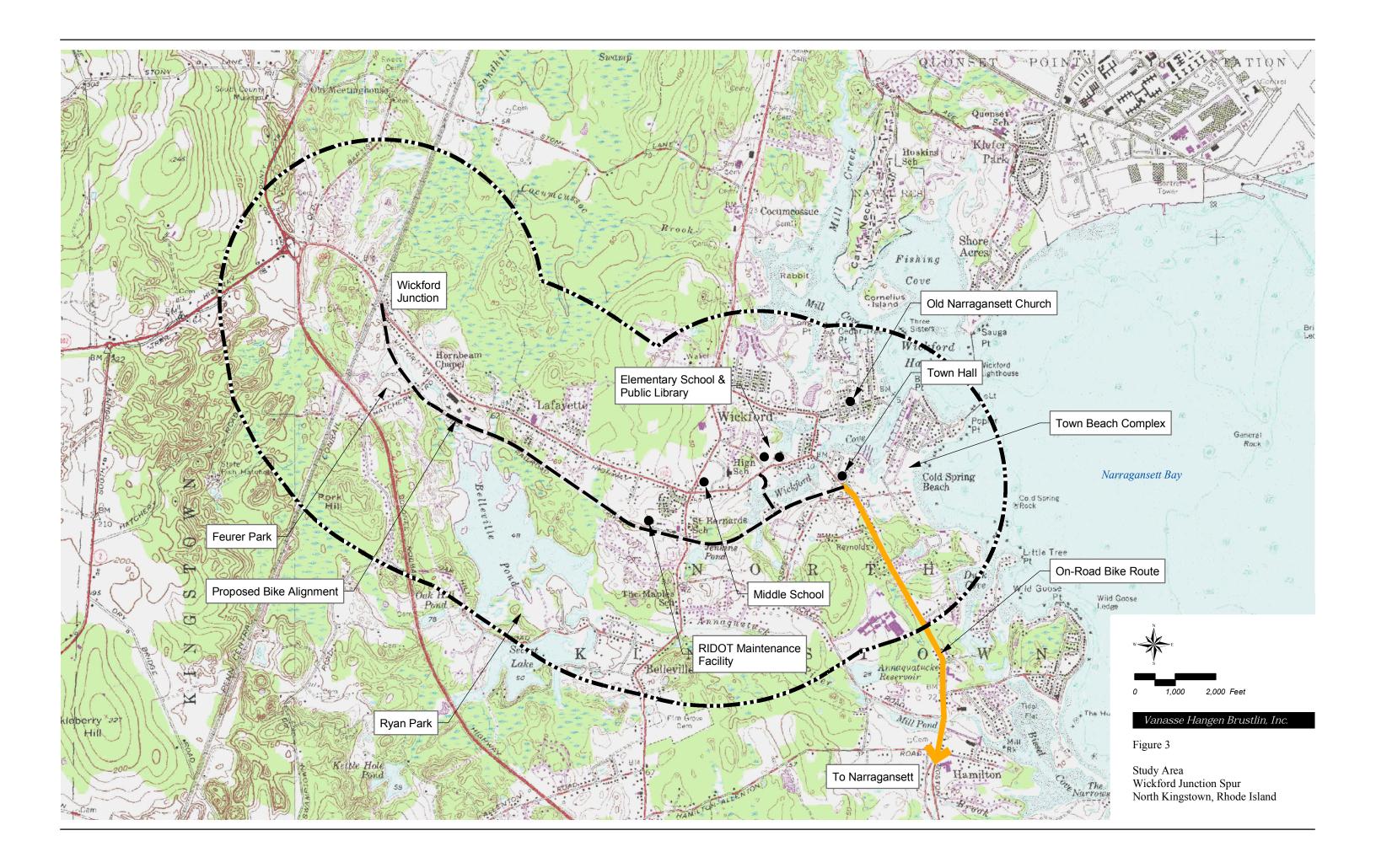
There is currently only one bike path within the Wickford area, the Wilson Park Bikeway, a short, 1.5-mile loop with water views and picnic area located off of West Main Street. The Belleville Pond area, including Ryan Park, provides walking trails through an area generally bounded by Oak Hill Road, Route 4 and Lafayette Road. These trails provide walking access to natural open space areas and ballparks. These paths are unpaved, often narrow paths and are ill suited for bicycle use.

#### **Area Attractions and Trip Generators**

The project area runs through a variety of land uses (see Appendix for current land use details) and joins a number of commercial, recreational and historic attractions and connects to several open space areas and residential neighborhoods. See Figure 3 for locations of area attractions. The locations of current and potential historic areas are presented in the Appendix.

West of the project limits, in the area referred to as Wickford Junction, is a developed commercial area including a Wal-Mart store, Staples and Home Depot, as well as a number of smaller retailers. The development of a rail station along the Amtrak line at this commercial plaza is currently under consideration.

The proposed path begins on the easterly side of the Amtrak rail line and continues east, bordering along a residential historic area and meets Feurer Park, a 29-acre park with a baseball field located just west of Lafayette Road. East of Lafayette Road the study corridor runs north of and adjacent to Ryan Park, which is a 435-acre park with vast open space, wetland and forested areas, numerous hiking trails centered around Belleville Pond, several ball fields, a playground and other recreational facilities. Several existing hiking trails intersect the study corridor and lead into Ryan Park. Both Feurer Park and Ryan Park provide gravel parking lots accessible from Lafayette Road.



At the corridor crossing of Tower Hill Road, a number of commercial establishments are accessible, as well as St. Bernard's Church and Parish Center, a Montessori School and various residential areas. East of Tower Hill Road the corridor enters into the Wickford Cove area with access to the cove, scenic views and a possible connection to Loop Drive, which is a local roadway serving a number of residential properties and connecting to Phillips Street. Phillips Street provides access to the town's elementary school, public library, playgrounds and Wickford Village shopping.

The area east of Tower Hill Road and generally north of the study corridor includes the Wickford Village Historic District. This area surrounds Wickford Harbor and boasts numerous old churches, small shops, restaurants and historic homes dating back to the late 18th and early 19th centuries. Specific attractions include Old Narragansett Church (1707), one of the oldest Episcopal Churches in America; the Town Beach Complex, which includes salt-water beaches, playgrounds and band shell concerts; the Town Hall; numerous memorials and parks and several festivals throughout the year.

The corridor generally terminates near the Town Hall at Boston Neck Road (Route 1A), a scenic roadway designated as a bike route starting at the Town Hall and continuing south to the Town of Narragansett.

Evaluation of Multi-Use Route

# **Evaluation of Multi-Use Path Route**

The development of a multi-use path from Wickford Junction to Wickford Village provides a dedicated multi-use connection as an alternative to Ten Rod Road/Phillips Street. As detailed in the Existing Conditions section, Ten Rod Road/Phillips Street has narrow shoulders, experiences heavy traffic volumes as the main east west arterial to Wickford Village and vehicles that travel at high speeds, therefore the roadway is considered ill-suited for bicycle use. The following discussion outlines the specific conditions, obstacles and opportunities involved with the creation of a dedicated multi-use path through the corridor of the abandoned railroad spur.

In accordance with the AASHTO Guide for the Development of Bicycle Facilities (1999) the preferred proposed multi-use path typical section is a paved 12-foot path with 2-foot shoulders at 6:1 grades. Horizontal clearances from the edge of the paved path to the top of slope for fill slopes 3:1 or steeper should be 5 feet minimum.

Figures 4 thru 8 detail the multi-use path corridor and routes evaluated with the approximate adjacent parcel limits indicated on top of an aerial print. Additional features impacting the multi-use path route are described below and indicated on the aerial figures.

## **Existing Corridor Conditions**

The abandoned railroad right-of-way corridor is generally 80 feet in width, which for the majority of its' length a cleared path approximately 10' to 20' in width alternates between cut and fill sections. The path varies in composition, but generally is compacted ground with light vegetation and at several locations wooden ties and rails remain in place. No evidence of ledge outcroppings was observed during field visits. Joggers, walkers, and bicyclists utilize portions of the corridor and evidence of equestrian use exists along the cleared path locations. Throughout the limits of this cleared path, intersecting trails provide access from homes, local roadways and commercial establishments north of the corridor and to various open space areas south of the corridor.

Beginning at a wide clearing at the southeast quadrant of the Amtrak line and Ten Rod Road intersection, the existing cleared path continues southeasterly within the abandoned railroad right-of-way corridor into a wooded area behind a number of residences along Ten Rod Road. The path crosses over a stream called the Annaquatucket River via a 4'x4' twin box culvert and continues north of Feurer Park

and a small cemetery dating from the 1800's before becoming a 20-foot wide broken bituminous driveway/roadway which provides access from Lafayette Road to Feurer Park and two adjacent houses north of the corridor.

Crossing Lafayette Road, the path continues north of the Ryan Park trailhead and parking lot as a 12' to 15' wide trail under tree canopies and various cut and fill sections to a stream crossing approximately 800 feet east of Lafayette Road. An existing stone arch bridge approximately 8 feet wide carries the path over the Annaquatucket River. Another 1300 feet east of this stream, a 4-foot stone culvert drains an area under the path to Belleville Pond. At this location, another cemetery surrounded by a stonewall and dating to the 1830's exists just south of the path.

With woods to the south of the path and combined woods and housing to the north the path follows the abandoned railroad right-of-way easterly until approximately the limits of Dillon Avenue. Narrow trails connect the local residential roads north of the corridor with the clear path and an 18" culvert with a concrete headwall drains from Warburton Avenue to the Belleville Pond area. Beginning at Dillon Avenue, the cleared path veers southward and appears to leave the abandoned railroad right-of-way as it winds through a flat wooded area and continues towards Angel Avenue. At approximately Angle Avenue the path turns northward and then dissolves into overgrown woods.

A cleared path briefly exists along the railroad corridor from Dean Avenue to the western limits of the RIDOT Belleville Maintenance Facility where the path terminates. The Maintenance Facility occupies approximately 1000 feet of the abandoned railroad right-of-way directly west of Tower Hill Road with wetland areas directly south of the Maintenance Facility property.

East of Tower Hill Road, Wickford Lumber, an active lumberyard with heavy truck traffic, occupies right-of-way of the abandoned railroad. A small wheelchair retailer exists south of the lumberyard. A chain link fence delineates the southeastern limits of the lumberyard area where the cleared path of the abandoned railroad reemerges and continues east. The path is generally 12′ to 15′ in width and on a fill section with steep slopes 10′ to 15′ high. A small stream runs north side of the path towards Wickford Cove with wetlands and woods with a high tree canopy surrounding the corridor. A concrete culvert connects Jenkins Pond south of the path to the stream north of the path.

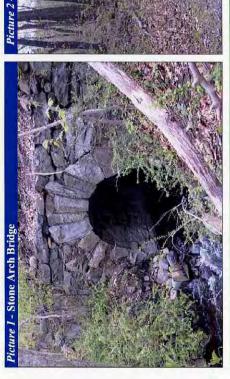
As the railroad approaches Wickford Cove, railroad ties become exposed and the path narrows to 10' to 12' in width as it leads to a bridge crossing. The bridge structure is approximately 15 feet high and consists of stone abutments supporting a single span open timber tie deck. The surrounding area is generally wetlands, however the abandoned railroad line is all on existing fill. Continuing east from the bridge structure, the abandoned railroad corridor enters a residential area as the path narrows to 6' to 8' wide and winds through a cut section before becoming overgrown at Loop Drive. A steep connecting path from Lindley Avenue onto the abandoned

corridor is utilized as a cut through between the residential area south of Wickford Cove to the elementary school and facilities along Phillips Street.

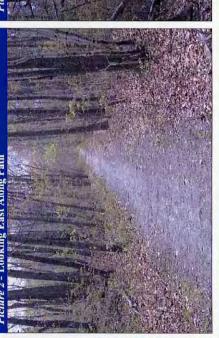
The path is generally overgrown between Loop Drive and Beach Street with wetland areas to the north and houses to the south. At the limits of Beach Street the abandoned railroad right-of-way is approximately 12 feet below street level. Between the limits of Beach Street and Updike Avenue, residences and a dental office occupy the abandoned right-of-way.











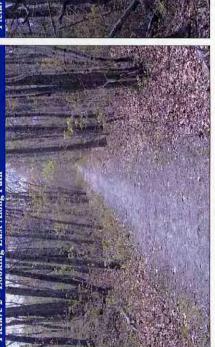
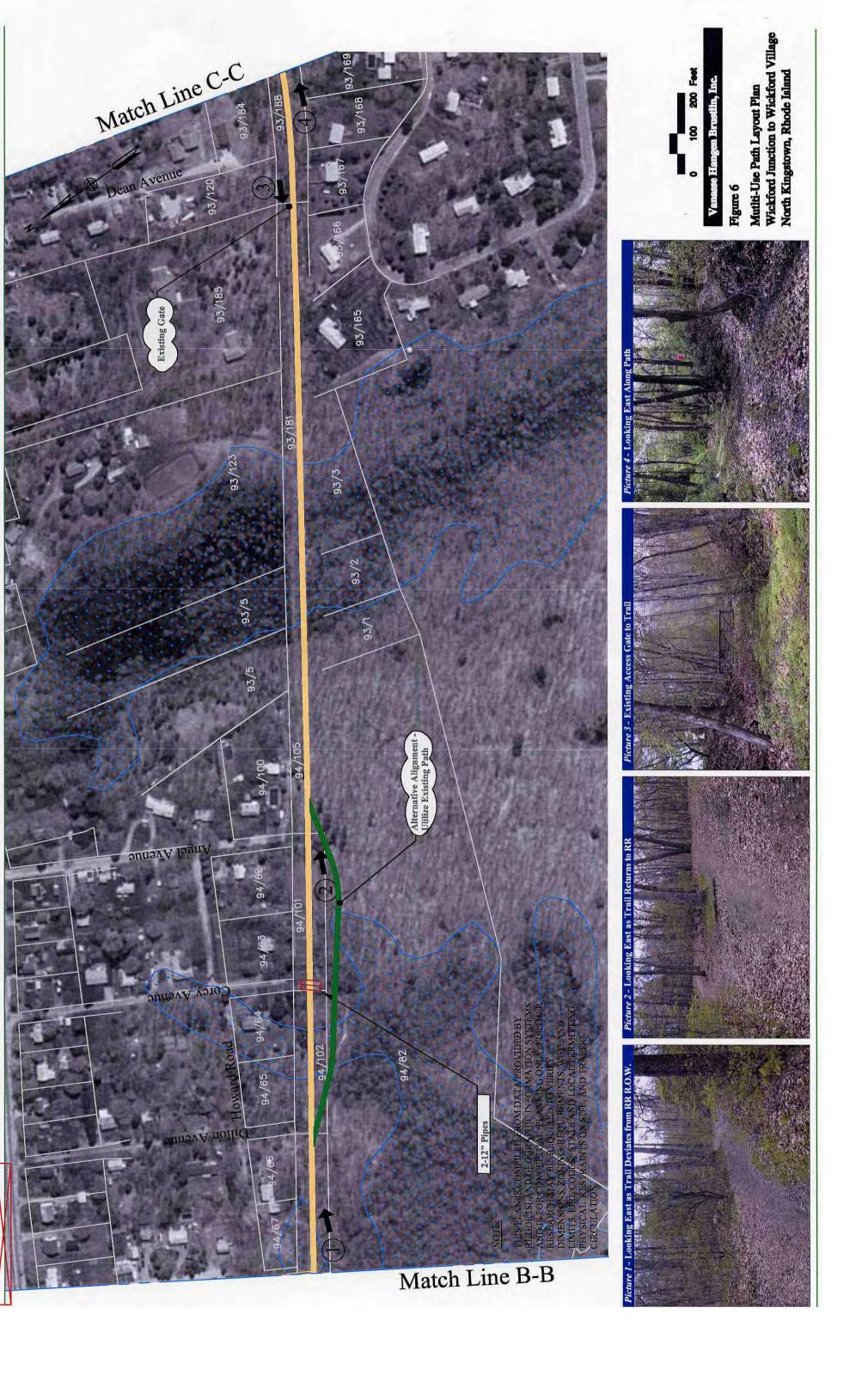




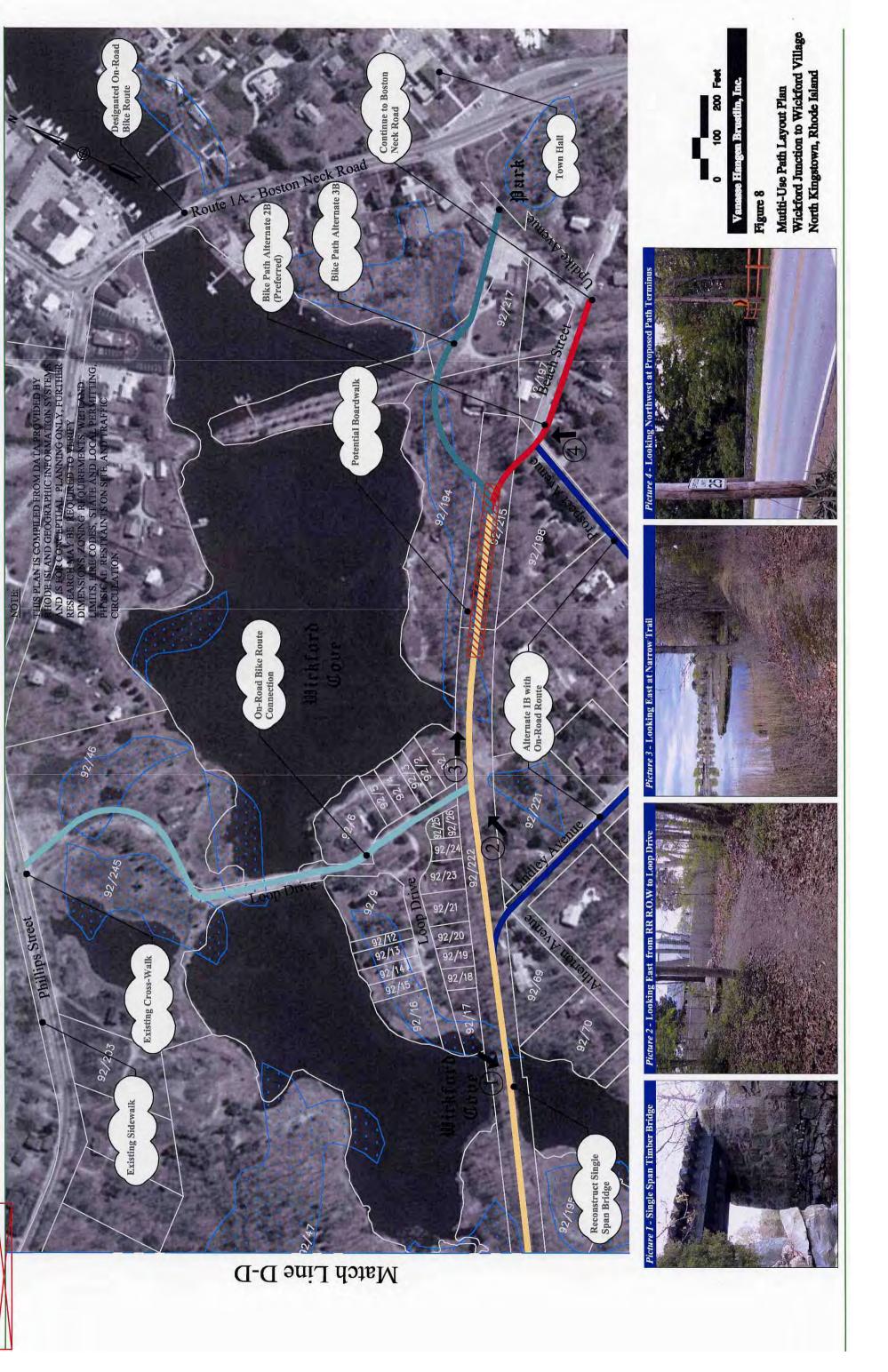


Figure 5

Mutiti-Use Path Layout Plan Wickford Junction to Wickford Village North Kingstown, Rhode Island







#### **Topographic and Structure Constraints**

The proposed multi-use path alignment would follow the existing berm or cleared path of the abandoned railroad track bed that is roughly the center of the abandoned right-of-way.

## **Drainage Structures**

As detailed in the Existing Corridor Conditions section above and indicated in Figures 4 thru 8, there are a number of existing drainage and stream crossing structures across the proposed multi-use path alignment. They are as follows:

- 1. Twin 4' x 4' box culvert approximately 20' in length crosses the Annaquatucket River; Located 1000' +/- west of Lafayette Road; Flows northerly en route to Belleville Pond
- 2. Two stone arch bridges crosses the Annaquatucket River, approximately 7.5′ wide and approximately 30′ in length; Located 800′ +/- east of Lafayette Road; Drains southerly to Belleville Pond area
- 3. Stone box culvert, 4' wide and approximately 30' in length; Located 2200' +/- east of Lafayette Road and 500' +/- west of Gardiner Avenue; Drain southerly to Belleville Pond area
- 4. 18" pipe culvert with concrete headwall at the extension of Warburton Avenue; Drain southerly to Belleville Pond area
- 5. Twin 12" pipe culverts at the extension of Corey Avenue; Drain southerly to Belleville Pond area
- 6. Concrete box culvert of undetermined size; Located just east of Wickford Lumber Company, east of Tower Hill Road; Flows northerly en route to Wickford Cove
- 7. Single span bridge with timber deck and stone abutments; 12 feet wide and 12-foot span; Crosses portion of Wickford Cove. The decking of this structure is greatly deteriorated.

Field measurements and a cursory inspection of the bridges and large culverts were conducted to determine the scope of repairs and reconstruction required for the construction of the multi-use path. A summary of the inspection results and recommended action is included in the Structural Evaluation section of the Appendix

Additional drainage structures may also exists within the corridor limits and would be identified by a full survey. The need for additional structures and ditches due to the creation of the multi-use path should be addressed during design.

#### **Route Alternatives**

Existing land uses and physical developments on and adjacent to the abandoned railroad right-of-way present obstacles to the continuity of the multi-use path and terminating the path onto the local road system. Field reviews with aerial mapping were conducted to identify and evaluate various bikeway segment alternatives.

#### Driveway/Access Road from Lafayette Road to Feurer Park

An existing driveway/access roadway leads west from Lafayette Road and provides access to residences along the north side of the drive and to the gravel parking lot adjacent to Feurer Park. In addition, several vehicles utilize the region for parallel type parking adjacent to the residences.

#### Alternate 1

- ➤ Proceeding easterly, the two directions of the multi-use path split to border the sides of the driveway/access roadway as bike lanes.
- ➤ A stop sign controls the roadway traffic and a striped crosswalk is provided for the eastbound bicyclist to cross the access road.
- Signing is erected to indicate the bike lanes presence to the motorist.
- East of Lafayette Road the multi-use path is reestablished.

#### **Advantages**

- Provides a minimal amount of crossing traffic by separating the two directions of bike path traffic.
- ➤ Little to no impact to the surrounding trees and canopy.

#### **Disadvantages**

- Approximate 400 feet of bike lanes alongside roadway is inconsistent with the remaining portions of the path and may not be expected by the multi-use path users.
- ➤ Parking maneuvers along the private residences creates hazardous condition to the westbound bike lane users.
- ➤ Dual landing locations on the west side of Lafayette Road requires two crosswalks across Lafayette Road.

#### Alternate 2

- ➤ Proceeding easterly, the multi-use path is diverted to the south, crossing the driveway/access roadway at the turn to Feurer Park.
- A stop sign controls the roadway traffic and a striped crosswalk is provided for users traveling in both directions along the multi-use path to cross the access road.

The multi-use path is continued approximately 10 feet south of and roughly parallel to the driveway/access roadway to Lafayette Road, all within the southern portion of the abandoned right-of-way.

#### Advantages

- Consistent multi-use path section maintained
- Eliminates conflicts with parking maneuvers and with vehicular traffic
- Distances the multi-use path from the residences back yards
- Single landing on the west side of Lafayette Road and a single crossing can be utilized for both directions.

#### **Disadvantages**

- Entire multi-use path traffic must cross the driveway/access roadway
- Loss of trees due to the multi-use path being constructed on the southern portion of the abandoned right-of-way

As a separate multi-use path, minimizing conflict between users of the path with vehicles parking or through traffic to and from the park is a priority. It is therefore recommended that Alternate 2 be the basis for continuing with the planning and design of the multi-use path.

#### **RIDOT Belleville Maintenance Facility**

The existing railroad track bed provides a sufficient base for the development of the proposed multi-use path with minor adjustments needed to accommodate the width of the multi-use path, drainage requirements and clearance needs. At several locations restrictions due to existing buildings, topographic features and environmentally sensitive areas require the need for retaining walls to limit the impacts of the proposed multi-use path.

At the request of the RIDOT Design and Planning Sections, Garofalo & Associates prepared an Evaluation Study of the impacts of the proposed construction of a salt storage building at the Belleville Maintenance Facility (anticipated construction Spring 2003, but not yet started) on a proposed bike path. The recommendation from the Garofalo & Associates study was to continue the bike path within the abandoned railroad right-of-way (Lots 188 and 172, parts of which are occupied by the maintenance facility) by constructing a 200 foot long retaining wall with a guardrail on top separating the maintenance facility from the bike path. A barrier or fence would delineate and protect the wetland areas to the south of the path. The route was selected to minimize impacts to identified wetlands to the south, while not interfering with the operations of the maintenance facility. See the Appendix for the Garofalo Plan.

#### **Tower Hill Road**

The multi-use path meets the west side of Tower Hill Road just south of the driveway to the RIDOT Maintenance Facility. East of Tower Hill Road, several buildings and current land uses occupy the abandoned railroad right-of-way. St. Bernard's Church and adjacent parking lot occupy the Lots 61 and 62 (Plat 92), a residential home occupies Lot 63 (Plat 92), Wickford Lumber occupies Lots 64 and 219 (Plat 92), and a small wheelchair retail store is located on Lot 33 (Plat 86). To continue the multi-use path onto the abandoned railroad right-of-way east of these properties several alternates have been considered and studied.

#### Alternate 1A

- Proceed north as a shared roadway along Tower Hill Road to the southern limits of the church parking lot.
- Continue easterly along the south edge of the parking lot on Lot 62 and north of the private residence on Lot 63 and the fence of the lumberyard to Lot 60 (Plat 92). Due to a steep slope with a 10-foot grade differential, the multi-use path would require two parallel retaining walls to provide a gradual grade.
- > The path continues southerly across a wooded area within Lot 60 to a stream that lies north of the railroad path.
- A proposed bridge would traverse the stream and connect the path back to the abandoned track bed.

#### **Advantages**

- > Only minimal impacts to wetlands located along Lot 60 as delineated on the RIGIS database.
- Area of multi-use path along Lot 60 is undeveloped

#### **Disadvantages**

- Shared roadway along Tower Hill Road for approximately 200 feet requires either two crossing locations, or a widen path constructed on the west side of Tower Hill Road and a single pedestrian activated signal crossing.
- > Property taking required from St. Bernard's Church (Lot 62) and from Karen Plympton (Lot 60)
- Loss of an estimated 16 parking spaces from the two church parking lots.
- Proximity of retaining walls and multi-use path to house on Lot 63
- Two parallel retaining walls required along church property bridge/culvert structure required for the stream crossing

Due to the safety issues arising from the shared use roadway, potential difficulties with obtaining land from the church and impacts to their parking capacity, the costs associated with the parallel retaining walls and bridge structure, this option is considered undesirable.

#### Alternate 2A:

- Cross Tower Hill Road utilizing a pedestrian activated signal at the location south of the maintenance facility driveway to the south of the Wickford Lumber driveway.
- ➤ Continue the multi-use path easterly on the northern limits of Lot 33 (Access Won wheelchair retail store) and south of the Wickford Lumber parking lot, Lot 219.
- > The multi-use path follows the lumberyard fence easterly then turns northeasterly where an existing 4 foot wide earth shoulder adjacent to the fence would require a retaining wall along Lot 104 (Plat 86) to provide the required multi-use path width and to minimize impacts to adjacent wetlands to the south
- ➤ Path turns easterly again on top of the 8′ to 10′ wide abandoned track bed berm south of the fence at approximately 200 feet east of Tower Hill Road where the retaining wall would end

#### **Advantages**

- ➤ Eliminates the need for a shared roadway along Tower Hill Road
- > Provides a direct route for the multi-use path users
- ➤ Only about 100 feet of the path would be bordered by active land use on both sides of the path.
- Views of open space areas to the south

#### **Disadvantages**

- Property takings from Tavarozzi Properties LLC (Lot 33) results in the loss of at least one and possibly three parking spaces
- ➤ Additional property takings required along undeveloped portions of Lots 104 and Lot 219.
- > Tower Hill Road crossing to be executed on a diagonal to be avoid crossing the Wickford Lumber driveway entrance
- > The existing store sign, mailbox and the landscaped island between two parking lots would be all need to be relocated to provide a landing area for the roadway crossing and the continuation of the multi-use path.
- > The slope alongside the lumberyard fence, behind the wheel chair store, is approximately 10' to 15' in height with steep grades of 1:1 or more and the low areas are designated as wetlands in RIGIS database, requiring a retaining wall to provide an adequate multi-use path width
- ➤ Wetlands impacted on Lot 104, approximately 800 square feet (estimated 10′x80′ area)

While this option would require takings from three landowners, the reconfiguration of parking and the relocation of signing of the wheelchair store and impacts to wetlands, this alternative offers the safest and most aesthetically appealing route to continue the path along the railroad corridor.

It is therefore recommended that Alternate 2A be the basis for continuing with the planning and design of the multi-use path.

#### **Eastern Limits of Multi-use Path Termination Evaluation**

The level of development along the abandoned railroad right-of-way in the Wickford Cove area complicates the termination of the proposed multi-use path at the eastern end. Connecting the multi-use path's eastern terminus to the town's street system allows the users the ability to utilize the multi-use path as a transportation alternative as well as a recreational one. Three alternative connections are presented here:

#### Alternate 1B:

- Proceed eastward along the abandoned railroad right-of-way to the corner of Lindley Avenue and Atherton Avenue. The cleared path here is approximately 7 feet below the grade of the roadway and a worn path is delineated by boulders leading from the cleared path to the roadway. The surrounding area is residential with houses and free standing sheds near the path.
- ➤ Develop a ramp section approximately 120 feet in length (6% grade) to gradually bring the path to match the grade of the roadway at Lindley Avenue.
- Connect to Lindley Avenue between Lots 69 and 221 of Plat 92
- ➤ Provide a small landing area and crosswalk at the roadside to allow users to continue along the local roadway system.
- ➤ Continue the route as a shared roadway bike route along existing Lindley Avenue to Prospect Avenue, along Prospect Avenue to Beach Street and Beach Street to Updike Avenue to connect the route to the Town Hall area and the Boston Neck Road (Scenic Route 1A) bike route.

#### **Advantages**

- Only a short ramp section is required to meet the roadway elevation.
- ➤ Route is currently used by local residents to cut through to Loop Drive

#### **Disadvantages**

- Property takings necessary from two residential parcels
- ➤ Local residents may be uncomfortable with the multi-use path terminating within the residential street system and passing in close proximity to their homes
- Continuation of route on local roadways as a shared road for approximately 2300 feet before reaching Boston Neck Road at the Town Hall is undesirable for pedestrian and non bicycle users.
- Relocation of fire hydrant at landing area

The excessive length of the connecting route on local roadways (nearly ½ mile) makes this option less desirable. The remaining issues do not necessarily preclude this alternative from being implemented.

#### Alternate 2B:

- ➤ Continue the multi-use path eastward from the Wickford Cove area along the abandoned railroad right-of-way to the corner of Beach Street and Prospect Avenue. At this location the railroad corridor area is generally 10 to 12 feet below the street level (south) with a level shoulder area to the north of the path bordering Wickford Cove.
- ➤ Develop a ramp section approximately 200 feet in length (6% grade) to bring the path to match the grade of the roadway
- ➤ Provide a connecting path to Beach Street through a section of land generally overgrown with shrubs and trees on Lots 198 and 197 of Plat 92. At the roadside area a stonewall and a wooden fence border the side of the public roadway.
- ➤ Provide a small landing area and crosswalk at the roadside to allow users to continue along the local roadway system.
- Continue the route as a shared roadway bike route along Beach Street and Updike Avenue to connect the route to the Town Hall area and the Boston Neck Road (Scenic Route 1A) bike route.

#### **Advantages**

- > Utilizes the entire limits of abandoned railroad right-of-way to minimize the use of the local roadways as a shared roadway
- ➤ Connecting section from the railroad corridor to the local roadway is slightly isolated from area houses.
- > Straight connection along Beach Street to the Boston Neck Road (Scenic Route 1A) bike route.

#### **Disadvantages**

- ➤ Property acquisitions required from Lots 198 (same owner as Lot 215, the adjoining piece of the abandoned right-of-way) and 197.
- ➤ The required modification of a wooden rail fence and relocation of a utility pole to accommodate the multi-use path terminal.
- The continuation of route on local roadways as a shared road for approximately 800 feet before reaching Boston Neck Road at the Town Hall is undesirable for pedestrian and non-bicycle users.
- ➤ Due to possible wetlands in the area of the multi-use path and to the north, a boardwalk may be needed to limit the impacts of the elevated ramp section.

#### Alternate 3B:

- Continue the multi-use path from the abandoned railroad right-of-way (Lot 215), past the Beach Street/Prospect Avenue corner towards Updike Avenue on Lot 194 of Plat 92.
- > Turn the path north avoiding the existing house on Lot 194
- ➤ Continue adjacent to the existing gravel driveway along the northern limits of Lot 217 of Plat 92.

- ➤ Connect to Updike Avenue between Lot 152 of Plat 90 and Lot 217, along portion of existing gravel parking lot.
- Provide a crosswalk across Updike Avenue to the park on the east side of Updike Avenue.
- ➤ Bicycle route can be continued 200 feet along Updike Avenue as a shared roadway to Boston Neck Road at the Town Hall.

#### **Advantages**

- Most direct and complete route to connect to the Town Hall area
- ➤ Termination area is directly across from town park and the Boston Neck Road (Scenic Route 1A) bike route.

#### **Disadvantages**

- ➤ The acquisitions of properties from Lots 194, 217 and 152 being a residence, dentist office and residence respectively.
- > By directing the path north of the house on Lot 194, the multi-use path would divide the remainder of the lot from the house, which may result in additional takings or compensation.
- Mitigation of potential wetland impacts arising from the paths route north of the buildings.
- ➤ The redesign of the gravel parking area and potential compensation for parking spaces lost on Lot 217.
- ➤ Establishment of a midblock crossing at Updike Avenue with signing, striping and appropriate landing areas.

While the termination location of Alternative 3B is the most favorable, the impacts to the residence on Lot 194 and the subsequent impacts to the gravel drive and parking lot along Lot 217 make this alternative very problematic.

All three alternates require additional property acquisitions from private owners to complete the path and connect to the local roadway system. Alternate 2B presents the most effective termination location without unduly impacting the landowners or requiring excessive travel on the local roadways.

It is therefore recommended that Alternate 2B be the basis for continuing with the planning and design of the multi-use path.

#### **Loop Drive Option**

Loop Drive presents another option, which may be utilized as an alternate termination treatment if the other options are not practical or as an additional route connection. Loop Drive is a no-outlet local road providing access from Phillips Street to a small number of secluded residences south of Wickford Cove via a variable width two lane bituminous pavement. The roadway crosses a bridge structure that separates two sections of Wickford Cove.

By continuing the path along the abandoned railroad right of way to the connecting Loop Drive right-of-way, a route may be continued on Loop Drive to Phillips Street as a shared roadway with signing or possibly as a bike lane. The multi-use path traffic may continue east along Phillips Street as a shared roadway or a bike route though this would require additional pavement width. With minor sidewalk adjustments, the pedestrian traffic can utilize the existing crosswalk provided across Phillips Street to access the sidewalk along the north side of the roadway. This connection would provide direct access from the multi-use path to the elementary school, public library and playgrounds near Boone Street and Wickford Village further east.

Local residents from south of Wickford Cove currently use Loop Drive and a short portion of the abandoned railroad tracks to access the elementary school and playgrounds along Phillips Street. The Loop Drive option may be implemented with any of the above termination alternatives.

#### **Utility conflicts**

Some existing utility facilities exist at various locations within the study area. These facilities are typically located at the intersecting roadways with the path, such as individual utility poles. Any required relocation of facilities is anticipated to be minimal and should be addressed during the design phase. No significant utility conflicts were identified along the proposed path corridor. For utility correspondence see Appendix.

#### Property Owners & Right-of-Way Constraints

Property lines, right-of-way limits and property owners were collected from the Town of North Kingstown's Tax Assessor maps and records. A listing of the current property owners of the abandoned railroad right-of-way from the Amtrak tracks to Updike Avenue is provided in the Appendix with the abutting property owners along this corridor also presented. The Tax Assessor Maps detailing the location of the corresponding lot numbers is also provided in the Appendix.

The corridor consists of 17 separate lots owned by 13 different owners, including the Consolidated Rail Corp, the Town of North Kingstown, the State of Rhode Island and ten different private owners. The following is a brief discussion of the required takings along the multi-use path, from west to east, and potential impacts:

#### Plat 100, Mainline Right-of-Way & Lot 35

#### Owner: Amtrak

A large triangle portion of the railroads mainline right-of-way (site of former Wickford Junction train station) is targeted for acquisition for the starting location of the multi-use path. Additional amenities such as path signing, vehicle parking and bicycle racks are envisioned for this area. A clear distance from the active railroad tracks must be maintained. A partial taking of approximately 3.20 acres from the

mainline right-of-way parcel would be required for the trailhead facilities and a full taking of approximately 0.39 acres from Lot 35.

#### Plat 100, Lot 33; Plat 27, Lot 31; Plat 94, Lot 104

#### Owner: Town of North Kingstown

These town owned lots border additional lands owned by the town and utilized for a variety of recreational purposes, including Feurer Park and Ryan Park. A potential conflict exists with access rights for the properties on Plat 100, Lot 15. The development of the path parallel to but separated by a tree buffer from the driveway/access road would alleviate this concern.

#### Plat 94, Lot 103

#### **Owner: Privately Owned**

The property owner owns this parcel as well as Lots 64 and 65 due north of the parcel. The western edge of Lot 103 is approximately the location the existing cleared path begins to veer south and apparently off the abandoned railroad right-of-way. A full taking would amount to approximately 0.66 acres, however a partial taking may be feasible if desirable by the property owner and the proposed path can be successfully developed along the existing cleared path (through Plat 94 Lot 82, owned by Town of North Kingstown) without wetland impacts.

#### Plat 94, Lot 101

#### **Owner: Privately Owned**

The property owner of this lot also owns the adjacent Lot 63 due north of this parcel. Field visits indicate the cleared path generally winds south of Lot 101 before returning to the abandoned railroad right-of-way towards the eastern limits of Lot 101; therefore the proposed path potentially can be successfully developed path through Plat 94 Lot 82, owned by Town of North Kingstown. The feasibility of this option must be studied with detailed wetland mapping to ascertain the impacts. A full taking of Lot 101 would be approximately 0.73 acres.

#### Plat 94, Lot 105

#### Owner: Town of North Kingstown

This town owned parcel is approximately 0.60 acres.

#### Plat 93, Lot 181

#### **Owner: Privately Owned**

The cleared path along this parcel is generally overgrown and indiscernible. A full taking of this lot would be approximately 2.29 acres.

#### Plat 93, Lot 188

#### **Owner: Privately Owned**

The 'Evaluation for Alternative Bike Path Locations Adjacent to the Belleville Maintenance Facility' by Garofalo & Associates, dated June 2002, evaluated various alternatives to minimize the impacts of a proposed bike path and the preferred route selected continues the path along this lot as all other alternates proved more

problematic. A full taking of this lot would be approximately 1.61 acres. *Note: A portion of this Lot 188 may have been separated and sold to the State of Rhode Island for the construction of the salt storage building; however current records do not indicate this transaction.* 

#### Plat 93, Lot 172

#### Owner: State of Rhode Island

The aforementioned Garofalo & Associates report summarized the proposed route for the path with respect to the proposed salt storage building and the adjacent wetlands. See the Appendix for the Garofalo & Associates plan. A proposed retaining wall, guardrail and fencing are detailed to limit the impacts of the path's construction and to protect the users and the wetlands. A partial taking or permanent easement along southern portion of this lot would be approximately 0.92 acres.

#### Plat 86, Lot 33

#### **Owner: Privately Owned**

This property is currently utilized as a wheelchair retail store called Access Won with a single story frame structure and parking lot located in front, and a store sign near the northwest corner of the lot. The existing sign will be relocated, the parking lot will be reconfigured and the approximate 15-foot wide paved parking section due north of the building will to be taken to allow the continuation of the multi-use path along the northern portion of Lot 33. The partial taking of this lot would be approximately 1500 square feet.

#### Plat 86, Lot 104

#### **Owner: Privately Owned**

In the vicinity of the proposed path this property is an area of wetlands and open woods. The construction of a retaining wall alongside the multi-use path following the Wickford Lumber Co. fence may require a small taking of the northwest corner of this parcel. The partial taking of this lot would be approximately 2200 square feet.

#### Plat 92, Lot 219

#### **Owner: Privately Owned**

This property is currently utilized as a lumberyard with heavy truck traffic and retail vehicular traffic operations occurring within the parking lot and yard areas. A single story building and a three bay garage structure exist on the property. A chain link fence borders the southern limits of the parking and storage facilities. The proposed multi-use path would generally follow outside this chain link fence with a retaining wall constructed along the south edge of the path to limit the encroachment into the wetlands. Minor adjustments may be needed along the property to repair the fence and delineate the parking areas from the path. A partial taking would be required along the areas south and east of the fencing and would amount to approximately 0.07 acres.

#### Plat 92, Lot 222

#### **Owner: Privately Owned**

This lot is a long undeveloped portion of the abandoned railroad right-of-way. The lot has a wide section west of Wickford Cove where the lot briefly splits into two directions. The existing cleared path, deteriorated bridge structure and abandoned rail ties exists on this lot. A partial taking may be considered given the wide section and split the parcel takes. A full taking of this lot would be approximately 7.60 acres.

#### Plat 92, Lot 215

#### **Owner: Privately Owned**

This lot is an undeveloped portion of the abandoned railroad right-of-way. The property owner also owns the adjacent Lot 198 to the south. A full taking of this lot would be approximately 0.94 acres.

#### Plat 92, Lot 194

#### **Owner: Privately Owned**

This lot is residential property. The path would be constructed north of the house and continued along the northern line of the existing drive of Lot 217. The route may cause difficulties due to the effective separation of the remainder of Lot 194 by the multi-use path. A partial taking of this lot would be approximately 0.11 acres.

#### Plat 92, Lot 217

#### **Owner: Privately Owned**

This lot is combined residential and business property containing a dental office. A gravel parking lot and driveway along the east and north portions of the lot would be impacted by the proposed multi-use path, which would be constructed along the northern edge of the driveway and lot. A portion of the path may also be constructed on Plat 90 Lot 152 depending upon the specific location of the property boundary and the impacts to the driveway and parking lot function. A drainage easement currently traverses the western edge of this lot. A partial taking of this lot would be approximately 0.13 acres.

## Traffic/Safety Issues

A major objective in the bicycle route alternative evaluation is the provision of high safety standards. The multi-use path's interaction with the intersecting roadways was studied to determine the appropriate treatment for each location based upon traffic volumes, travel speeds and sight lines.

#### **Tower Hill Road**

The Feasibility Study Report for the West Bay Bikeway dated January 1999 performed a gap warrant analysis for the intersection of the path with Tower Hill Road (Route 1) and concluded that a pedestrian actuated signal crossing is required. The heavy volumes of traffic along Tower Hill Road combined with the roadway geometry, including a sharp curve to the south and the presence of a hill to the north

of the crossing, and the angled direction of the crosswalk all indicate that a pedestrian activated signal crossing is appropriate.

Available sight distances as measured in the field are 380 feet and 410 feet from the east side of Tower Hill Road towards the northbound and southbound traffic respectively. From the west side of Tower Hill Road, 300 feet and 400 feet of available sight distances were measured for viewing the northbound and southbound traffic respectively.

Comparing the available sight distances with the Stopping Sight Distance required for the vehicular traffic, as listed in AASHTO-Geometric Design of Highways and Streets (2001) Exhibit 3-1 (See Appendix) provides a minimum desired sight distance 305 feet for a design speed of 40 mph. All four directions of measured sight distances exceed this value. These stopping sight distances should be adequate with the installation of a pedestrian actuated signal.

#### Lafayette Road

The West Bay Bikeway report recommended advanced warning bikeway crossing signs on Lafayette Road prior to the multi-use path crossing due to poor sight distance conditions. Field observations indicate trees and other vegetation along the west side of Lafayette Road limit the available sight distance to the north. The vertical crest along Lafayette Road south of the path crossing restricts sight distance to the south.

Available sight distances as measured in the field are 330 feet and 160 feet from the west side of Lafayette Road viewing the northbound and southbound traffic respectively. From the east side of Lafayette Road, available sight distances of 370 feet and 500 feet were measured for viewing the northbound and southbound traffic respectively.

The Stopping Sight Distance for 30 mph design speed is 200 feet, as listed in AASHTO-Geometric Design of Highways and Streets (2001) Exhibit 3-1 (See Appendix). The removal of the 10 – 8" trees and the bush vegetation, located upon private property north of the crossing on the west side of Lafayette Road, should be investigated to provide the 200 feet of sight distance. The low ADT volume of this roadway provides ample opportunities for the multi-use path users to cross.

#### **Loop Drive**

The crossing of the Loop Drive bike route at Phillips Street was studied. Available sight distances as measured in the field are 365 feet and 500 feet from the south side of Loop Drive viewing the westbound and eastbound traffic respectively. From the north side of Loop Drive, available sight distances of 445 feet and 500 feet were measured for viewing the westbound and eastbound traffic respectively.

All four sight distance measurements exceed the Stopping Sight Distance for 35 mph design speed, 250 feet, as listed in AASHTO-Geometric Design of Highways and

Streets (2001) Exhibit 3-1 (See Appendix). An independent study of pedestrian crossing sight distances titled 'Trail Intersection Design Guidelines' by Wayne Pein is referenced (See Appendix) for determination of desired sight distances. The sight distances are based upon 3 seconds of perception and reaction time and a walking rate of 3.5 feet per second. Combining the street width and vehicle design speeds yields a desired crossing sight distance of 500 feet. The available sight lines for viewing westbound traffic is less than the 500 feet and therefore additional measures such as crosswalk ahead warning signs with flashing lights may be warranted.

#### Intermodal Opportunities

Various modes of transportation available near and around the multi-use path corridor were evaluated to identify and optimize potential connections with the path. Facilitating intermodal opportunities provides greater exposure and increases the ability for the path to be utilized as a transportation link and provides relief to constrained roadways and parking facilities.

The surrounding roadway network offers the area residents several connections to the proposed multi-use path. In addition, the development of parking facilities for both bicycles and automobiles along the path is vital to allow regional users to utilize the various segments of the path.

At the western limits of the path near the Amtrak line off of Ten Rod Road, the undeveloped land of the Amtrak right-of-way offers an opportunity for a trailhead facility with parking, bike racks, signing detailing the path and area attractions and a meeting location. Further west, along Ten Rod Road, a Park n' Ride facility is available for additional parking for visitors to access the path and continue to Wickford Village. The parking facilities off of Lafayette Road for Ryan Park can be utilized for the multi-use path as well as the park with little changes needed.

The existing hiking trails that access the existing cleared path, such as those from Arnold Avenue, Warburton Avenue and Ryan Park, should be maintained to provide local residents direct access from the local roadways. Signing indicating the path's presence and restricting parking of bicycles on the local roadways and the use of motorized vehicles on the path should be erected at any entrance location to be provided from public roadways.

From east of Lafayette Road to the eastern termination location, developing additional parking facilities and connecting paths is more complicated. Bicycle racks, route signing and signs detailing area attractions can be provided at the landing area on the western side of Tower Hill Road and near the eastern termination at Updike Park. Available parking facilities within the Wickford Village area are limited, however street parking and some local parking lots are available.

#### **Transit Connections**

Existing transit facilities within the Wickford Junction to Wickford Village corridor include Rhode Island Public Transit Authority (RIPTA), which operates bus routes through the area, Amtrak and a number of ferries operating out of Narragansett.

RIPTA maintains two bus routes through the Wickford area, Line #14 stops at West Main Street/Brown Street and Line #66 stops at the Park n' Ride facility at Route 2 and Ten Rod Road. RIPTA operates a program called Rack n' Ride, where free of charge riders may load their bicycle on the buses. This service expands the ability for people to travel to the Wickford area and utilize the multi-use path as a transportation alternative and a recreational facility.

Amtrak currently operates the Kingston Station near the University of Rhode Island Kingston Campus. The RIPTA Line #66 has a stop within the center of the URI campus, accessible from the Kingston Station via Route 138.

Additionally, there is a potential plan to develop a MBTA commuter rail station at the Ten Rod Road – Wickford Junction plaza retail center. The proposed multi-use path can be connected to the train station and retail center.

#### **Bike Routes**

The established on-road bike route along Boston Neck Road (Scenic Route 1A) terminates near the eastern limits of the proposed multi-use path and would allow users to continue from Wickford Junction to Wickford Village and then to the south through Narragansett and to the ferries running from Point Judith and Galilee to Block Island. Appropriate signing should be installed to direct bicycle traffic from Boston Neck Road, along Beach Street to the multi-use path and vice versa. The intersection of Boston Neck Road with Beach Street is currently signalized with crosswalks provided at the south and east approaches.

Another bike route envisioned within the Town of North Kingstown is a connection from the Wickford Village area to Quonset Point. Various public and private studies have been conducted regarding the feasibility of such a connection terminating on Boone Street near the Loop Drive intersection with Phillips Street. Currently the Town of North Kingstown has retained a design consultant to prepare conceptual design plans of the Wickford Village to Quonset Point route.

#### **Environmental Impacts**

Environmental data was collected from a variety of sources and utilized to evaluate the potential impacts from the development of the proposed bike path. The analysis of route alternative is based upon this data. The coordination and additional environmental data is presented in the Appendix.

A summary of the overall involvement and potential environmental impacts of the proposed bike path is discussed below.

#### **Farmland Impacts**

The Soil Survey of Rhode Island (Rector, 1981) identifies the following soil map units along the project alignment.

Table 2 Soil Map Units

Map Unit Name	Prime Farmland	Approximate Length (ft)
Carlisle muck	No	65
Hinckley gravelly sandy loam, rolling	Yes	1,000
Matunuck mucky peat	No	1,630
Merrimac sandy loam, 0-3%	Yes	280
Merrimac sandy loam, 3-8%	Yes	5,350
Merrimac-Urban land complex	No	1,620
Quonset gravelly sandy loam, rolling	Yes	820
Rumney fine sandy loam	Yes, where drained1	970
Sudbury sandy loam	Yes	290
Urban land	No	750
Walpole sandy loam	Yes, where drained <sup>1</sup>	1,400

<sup>&</sup>lt;sup>1</sup> Refers to artificial drainage installed in agricultural fields.

Prime farmland soils are mapped along the project alignment, however, no areas of active farmland within or immediately adjacent to the alignment were observed during the Site inspection. There will be no impact on prime farmland as a result of the Project.

#### Relocation Impacts and Right-of-Way Acquisition

The Project is located along an abandoned RR ROW, the majority of which is presently utilized as an unimproved gravel path. Evidence of use by pedestrians, mountain bikes, dirt bikes and horses was observed during a field inspection on July 9, 2003. Most of the work associated with the Project will occur within the abandoned RR ROW. However, portions of the RR ROW are privately owned, such as areas of the RR grade that are now in lawn south of Howard Road. The proposed Project will involve right-of-way acquisition to maintain the historic alignment. The rail grade south of the RIDOT Belleville Facility compound is obliterated by more recent development and access to Route 1 would require realignment of the compound yard.

According to the Town of North Kingstown Building Inspector's Office (Personal Communication, July 9, 2003) a large segment of the ROW between Routes 1 and 1A is in private ownership. The only access provided to this portion of the ROW is from Loop Drive, a dirt road.

#### Considerations Relating to Pedestrians and Bicyclists

During construction of the multi-use trail, access to the existing trail from Wickford Junction east to Route 1 would be temporarily restricted. The current condition of the ROW limits access only to pedestrians, mountain bicycles and horses due to the narrow, irregular unimproved surface. Upon completion of the multi-use trail pedestrian access would be reestablished. Bicycles and roller blades would have access to the path and the path will be handicapped accessible in accordance with the Americans with Disabilities Act.

#### Air Quality Impacts

The Project does not involve any action which will significantly increase traffic volumes within the Wickford Area, or result in any significant changes in usage. Accordingly, the project does not have the potential to cause new air quality standard violations.

Fugitive dust will be suppressed during the construction phase of the project through the application of water or other approved methods.

Air quality analysis has not been performed as part of this Environmental Evaluation.

#### Noise Impacts

No sensitive noise receptors were identified in the vicinity of the proposed multi-use trail that would be impacted by the proposed Project. The surrounding development includes mixture of commercial, residential, institutional uses, and wetland and forested land. The Project will occur (substantially) within the abandoned ROW, which is already utilized for recreation. Any noise impacts associated with construction will be short term. Construction operations will be restricted to 7AM to 5PM, Monday through Saturday.

#### Water Quality Impacts

The Rhode Island Department of Environmental Management (RIDEM), Office of Water Resources identifies groundwater along the Project alignment as Class GA and GAA. GA and GAA groundwater areas are considered potable without treatment. There is one GAA-NA area located at the RIDOT Belleville Highway Garage Facility due to the presence of uncovered salt/sand piles. There are no wellhead protection areas in the vicinity of the Project alignment. The Project will not impact groundwater.

Sedimentation and erosion controls will be utilized during construction to prevent turbid discharges into the storm sewer system or waters of the state.

#### Wetlands

There are state and federal regulated wetlands located adjacent to and within portions of the Project alignment (refer to attached sketch). According to the Freshwater Wetlands Jurisdictional Boundary for North Kingstown (http://www.narrbay.org/mapping/crmc-juris/view/nkin.jpg) the project alignment passes through both the RIDEM and Coastal Resources Management Council (CRMC) jurisdiction. These wetlands are also regulated by the Army Corp of Engineers (ACOE). The project will require wetland permitting.

The CRMC Rules and Regulations Governing the Protection and Management of Freshwater Wetlands in the Vicinity of the Coast specify which agency will handle road and utility projects that fall on the jurisdictional line. On the rare occasion that an application for a project straddles the line, the agencies have agreed to decide on a case-by-case basis whether one agency or both agencies should review the project. When planning for a project that straddles the line, a request should be submitted to the CRMC for the clarification of regulatory jurisdiction. CRMC will be the gatekeeper for these projects, will coordinate with the RIDEM, and will notify the applicant of the appropriate review agency.

Wetlands and their existing crossings identified during a site visit on July 9 and September 12, 2003 are detailed as follows:

- Approximately 1,200 feet south-southeast of the Wickford Junction, the Annaquatucket River crosses through twin 4-foot by 4-foot box culverts. The River is approximately 10-feet wide and flows easterly under the ROW. The River and associated Marsh/Swamp are located within 50-feet of the alignment for approximately 750 feet to the east of this crossing.
- ➤ The Annaquatucket River again crosses under the ROW in an 8-foot wide stone arch bridge approximately 800-feet east of Lafayette Road. The approximately 10-foot wide stream flows south into Forested Swamp adjacent to the Bellville Pond. The RR grade through this segment is steep sided and approximately 30-feet wide. The Forested Swamp adjacent to the stream extends approximately 75 feet to the east and west of the crossing. The southern limit of the RR grade from this crossing to a point approximately 4,000 feet east opposite Angel Avenue is located within 10 to 150 feet of Forested Swamp.
- ➤ Approximately 2,200-feet east of Lafayette Road is a wetland crossing through a stone box culvert. North of the ROW the wetland is approximately 200 feet from east to west and abuts the toe of fill associated with the former RR grade.
- > South of Warburton Avenue is a forested wetland located north of the RR grade.
- West of Corey Avenue is forested wetland located north of the RR grade.
- Approximately 2,400 feet west from Tower Hill Road (Route 1) is a forested Swamp located at the toe of fill and extending approximately 400 feet further west.
- North of the Chatworth Road subdivision the RR grade enters a cut section. The base of this cut exhibits wetland hydrology east to the RIDOT Bellville Facility.
- ➤ South of the RIDOT Bellville Facility is a Marsh and south of the southwest corner of the yard is a four-foot wide stream that flows south.

➤ East of Tower Hill Road (Route 1), behind two commercial buildings, the abandoned ROW is intact. A Forested Swamp is located both north and south of the ROW. North of the ROW from the lumber building east to the Salt Marsh flows a River less than 10 feet wide. The Swamp transitions into a Salt Marsh towards Wickford Cove. The ROW passes over a portion of the Wickford Cove via an approximately 25-foot bridge. Salt Marsh is present at the toe of slope on the eastern side of the bridge over Wickford Cove for approximately 75 feet both north and south of the ROW.

Wetland alteration will be needed to complete the project. Wetland impacts can be avoided or minimized through the use of design measures such as bridges, arch culverts, and retaining walls along the proposed alignment.

#### Floodplain Impacts

The majority of the Project Alignment is located within Zone C, as indicated on Federal Emergency Management Agency Flood Insurance Rate Mapping for the Town of North Kingstown, Rhode Island (Community Panel Number 445404 0012 B; Map revised February 16, 1983). Zone C is defined as "Areas of minimal flooding." The following areas are within Zone A1: "Areas of the 100-year flood; base flood elevation sand flood hazard factors determined":

- At the western crossing of the Annaquatucket River a 150-foot segment of the project alignment is depicted within base flood elevation 79 feet NGVD 1929.
- West of Lafayette Road a 250-foot section of the project alignment is depicted within base flood elevation 76 feet NGVD 1929.
- ➤ The second crossing of the Annaquatucket River (800-feet East of Lafayette Road) is a 200-foot segment of the project alignment depicted between base flood elevations 55 feet NGVD 1929on the southern side of the RR grade and 60 feet NGVD 1929on the northern side of the RR grade.
- ➤ Between 2,400 and 2,800 feet west from Tower Hill Road (Route 1) is an approximately 325-foot segment of the ROW depicted within base flood elevation 49 feet NGVD 1929.

The majority of the RR ROW between Route 1 and Route 1a is within Zone A12 (base flood elevation 13 feet NGVD 1929).

Any of the proposed improvements that will impact flood storage will be required to be mitigated with a net zero flood storage loss except when the loss is within the flood zone of tidal waters.

#### **Coastal Impacts**

The Coastal Resources Management Program (CRMP) classifies Wickford Cove as Type 1 and Type 2 Waters. The western portion of Wickford Cove is classified as "conservation areas" Type 1 Waters. The eastern portion of the Cove is classified as "low intensity use" Type 2 Waters.

Coastal salt marsh is located both north and south of the Project alignment as described above in the Wetlands Section. Alteration of coastal features or wetlands may be needed to complete the project. Coastal impacts may be minimized through appropriate design measures.

#### **Threatened or Endangered Species**

The construction of the multi-use trail will generally take place within the existing RR grade, the majority of which is currently a pedestrian walking trail.

A review of the available Natural Heritage Program (NHP) mapping of the area surrounding the project alignment with RIGIS rare species coverage indicates that Bellville Pond and its associated wetland resources located south of the abandoned RR ROW are within a polygon of an estimated habitat and range of rare species or a noteworthy natural community.

VHB has coordinated with the Rhode Island NHP and the United States Fish and Wildlife Service (USFWS) regarding the presence of state- and federal-listed rare, threatened or endangered plant or animal species in or along the Project alignment. The USFWS has indicated that no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the USFWS are known to occur in the project area (refer to attached correspondence). No further coordination is necessary with the USFWS. The NHP has indicated that there are no state-listed rare or endangered species or exemplary natural community types known to occur in the vicinity of the Project (refer to attached correspondence). No further coordination is necessary with the NHP.

#### Historic and Archaeological Preservation

In accordance with current RIDOT policy, the RIDOT coordinates directly with the Rhode Island Historic Preservation and Heritage Commission regarding properties listed on or eligible for listing on the National or State Registers of Historic places.

#### **Hazardous Waste Sites**

A review of federal and state environmental databases was conducted with an Environmental FirstSearch Report (attached) and is summarized here to help identify properties in the vicinity of the Project alignment that have had a release or threat of release of oil and/or hazardous materials. VHB reviewed sites from the National Priority List (NPL), the Resource Conservation and Recovery Act (RCRA) Corrective Action Sites (COR), RCRA Generators (GEN), Transportation, Storage Disposal Facilities (TSD), the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), State Sites, Emergency Response Notification System (ERNS), No Further Remedial Action Planned (NFRAP), Underground Storage Tanks (USTs), Leaking USTs (LUSTs) and Solid Waste landfills (SWLs) within the standard ASTM search radii of the project site. Non-geocoded sites are sites with minimal address information that may be located in close

proximity to the subject Site. VHB noted that none of the non-geocoded sites appeared to be located within 500-feet of the Project alignment.

The Project alignment was identified in the SPILLS database search. No NPL, CERCLIS, NFRAP, RCRA TSD, RCRA COR, ERNS, or SWLs were listed within the specific search distances. Facilities located within the specified search radius included nine RCRA GEN, one State Site, three spill sites, 16 REG UST/AST Site and twelve leaking UST Sites. Based on the findings of the database review, VHB recommends reviewing select files at the RIDEM. Please refer to the attached Environmental FirstSearch Report for details of the full results.

#### Construction Impacts

Construction of the Project will result in temporary disruption of pedestrian access to the work area. Traffic access at road crossings will be maintained.

Construction related noise will be limited to normal work hours, typically between 7:00 AM and 5:00 PM. Dust control may be required that would consist of water sprinkling and similar methods. Impacts to water quality within the work area will be minimized by the implementation of soil erosion and sedimentation control best management practices.

#### **Visual Impacts**

The project consists of constructing a paved multi-use trail along an existing corridor which is currently used by pedestrians and cyclists. The Project may require, limited vegetation clearing and trimming. The limited clearing and trimming of vegetation will be a temporary impact. The project will not result in any permanent visual impacts.

#### **Public Facilities**

Several public open space areas exist along the Project Alignment. These include Feurer Park (west of Lafayette Road), Central Park North of Bellville Pond and Ryan Park and the North Kingstown Town Forest (east of Lafayette Road and south of Bellville Pond). The abandoned RR ROW provides access to ball fields within Feurer Park off Lafayette Road.

The implementation of the Project will not prohibit access to any of these public open space areas. The purpose of the project is to enhance access to public open space and recreational areas. Construction sequencing has been created to ensure that access to various public open space areas will be maintained and unimpeded.

No public facilities exist in the direct vicinity of the project alignment.

VHB	Vanasse Hangen Brustlin, Inc.	

#### Maintenance Responsibility

The proposed multi-use path will be constructed by RIDOT with a maintenance agreement with the Town of North Kingstown. The Town will be responsible for operational maintenance and policing of the facility.

Proposed Multi-Use Path

# **Proposed Multi-Use Path**

For this project to advance beyond the Study and Development phase, extensive coordination and support from the Town of North Kingstown will be required. The purpose of this report is to document the proposed improvements, environmental constraints and estimated construction costs so all the pertinent information is available to both local and state decision makers. Inclusion of this project in the TIP will be necessary to advance this project into engineering.

The various impacts and mitigation efforts to minimize the impacts resulting from the development of the multi-use path along the 2.5 mile abandoned railroad right-of-way corridor result in the conclusion of an alignment, which maximizes the benefits of the proposed path and provides the best overall solution to achieve the goals of the Town of North Kingstown plan and the value of the path to the public. The following details the proposed multi-use improvements.

#### **Proposed Improvements**

The alignment of the proposed path generally follows the existing cleared path of the abandoned railroad track bed, beginning at the southeast quadrant of the Amtrak crossing of Ten Rod Road and terminating at the eastern limits of Lot 215 on Plat 92 at the corner of Beach Street and Prospect Avenue. The route is continued along the local roadways Beach Street and Updike Avenue to Boston Neck Road as a shared roadway with Bike Route signs to be erected.

The typical section of the multi-use path is a 12-foot wide paved path with 2-foot wide gravel shoulders at 6:1 slopes or flatter. The profile and all connecting elements of the path shall be constructed to meet the requirements of the Americans with Disability Act.

The proposed path requires at-grade road crossings at the access road to Feurer Park, Lafayette Road, and Tower Hill Road. Sight distance restrictions require additional treatments to provide a safe crossing at these locations, including pavement markings, advanced signing and vegetation clearing, as well as, a pedestrian actuated traffic signal at the Tower Hill Road crossing and stop signs on the access road to Feurer Park.

On-road shared bike routes are proposed along Beach Street from Prospect Avenue to Boston Neck Road. Localized roadway widenings of Beach Street and Prospect Avenue combined shoulder striping and erection of Bike Route signing is recommended along the shared roadways. A striped crosswalk and advanced

signing is required to allow eastbound bike traffic to cross Beach Street and continue on Updike Avenue.

The Loop Drive alternate would create an on-road shared bike route for the length of Loop Drive and utilize the existing crosswalk across Phillips Street. An accessible sidewalk ramp must be constructed on the north side of the Phillips Street and advanced signing should be erected to advise motorist of the crosswalk location. Signing at the intersection of Loop Drive with Phillips Street should be installed to inform users of the multi-use path connection

Required improvements to existing drainage structures and bridges are detailed in the Appendix.

Construct boardwalks to limit impacts to wetlands at two locations, the area between Angel Avenue and the RIDOT maintenance facility and the area between Loop Drive and Prospect Avenue. The boardwalk leading to Prospect Avenue will need to be graded over a distance of approximately 200 feet at 6% to accommodate the required change in grade.

Retaining walls with protective railing and fences are required along the RIDOT maintenance facility and adjacent to the Wickford Lumber Company fence line. The exact types and lengths of the retaining walls will be determined once topographic and wetland surveys are complete.

Wetland mitigation will be required for the construction of this multi-use path and associated improvements. The exact nature, location and quality of the impacted wetlands and the appropriate mitigation must be addressed through additional survey and coordination with the Rhode Island Department of Environmental Management (RIDEM) and the Town of North Kingstown.

Parking facilities for vehicles and bicycles and additional amenities such benches, water fountains, and restrooms, should be considered for construction at the western limit of the path. Signs informing the users of the paths route, local amenities and restrictions for use should be erected along the length of the path and at the various entrances as is warranted. Collapsible bollards should be erected at each of the path ends intersecting with roadways to prevent motorized vehicles from accessing the path.

Construction Cost Estimate

## **Construction Cost Estimate**

The proposed multi-use path improvement was evaluated to determine an estimate of the probable construction costs. The costs were based upon historical construction bid item costs. An estimated cost of construction for the proposed multi-use path based upon full design following AASHTO guidelines is \$3,130,000. A breakdown of the cost estimate is provided in the Appendix.

In summary, the above estimate does not include costs associated with any required environmental mitigation such as wetland impacts, or costs arising from property acquisitions.

Local Coordination

## **Local Coordination**

On February 7, 2005 the Town of North Kingstown held a Town Council Work Session on the "Wickford to Wickford Village Bike Path Draft Site Assessment Report." The work session was held to discuss the proposed bike path along the abandoned railroad right-of-way and gauge the level of support for advancing the identified bike path into design in the Transportation Improvement Program (TIP).

Based upon comments received from the public at the February 7, 2005 Work Session, the Town has decided not to support a bike path along the proposed route, and requested RIDOT not to proceed with this alignment any further. The Town has requested RIDOT, through its February 11, 2005 correspondence to the Rhode Island Statewide Planning Program to investigate the use of the Route 102 corridor for bicyclists and pedestrians as part of the FY 2006-2007 TIP.



# TOWN OF NORTH KINGSTOWN, RHODE ISLAND

80 BOSTON NECK ROAD NORTH KINGSTOWN, R I 02852-5762 PHONE. (401) 294-3331 www.northkingstown.org

INCORPORATED 1674
February 11, 2005

Katherine Trapanı RI Statewide Planning One Capitol Hill Providence, RI 02908

Re:

Transportation Improvement Program (TIP) Bicycle Pedestrian Program - Study and

Development - Wickford Junction Spur

Dear Ms. Trapani:

In response to your correspondence dated January 5, 2005, the Town is writing in reference to the Wickford Junction Spur that is currently listed in the Study and Development portion of the Bicycle Pedestrian Program of the TIP.

The North Kingstown Town Council recently held a public meeting to discuss the South County Bike Facilities Wickford Junction to Wickford Village Bike Path site assessment report prepared by Vanasse Hangen Brustlin (VHB) for the RI Department of Transportation and solicit feedback from those mostly directed impacted by a potential bike path in this corridor.

Based on the discussions during this meeting, the Town of North Kingstown is requesting that the RIDOT not pursue a bicycle path that would utilize the former Newport to Wickford Railroad Right-of-Way at this time. Instead, the Town Council is asking that the RIDOT investigate the merits of utilizing the Route 102 right-of-way as a potential bicycle facility. The Town believes the RIDOT can provide improvements to the Route 102 corridor that would make it more bicycle friendly, benefit not only bicyclists but also pedestrians, and calm vehicular traffic as well.

Thank you for your assistance in this matter. If you should have any questions or require additional information, please feel free to contact Marilyn F. Cohen, Director of Planning, at 294-3331, Extension 310.

Sincerely.

Anthony F. Miccolis, Jr.

President, North Kingstown Town Council

CC:

North Kingstown Town Council Richard Kerbel, Town Manager Marilyn F. Cohen, Director of Planning

Steven Devine, RIDOT

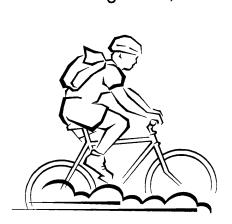
FEB 16

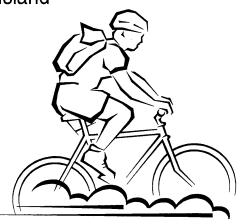
# SOUTH COUNTY BIKE FACILITIES: WICKFORD JUNCTION TO WICKFORD VILLAGE BIKE PATH SITE ASSESSMENT REPORT

### NORTH KINGSTOWN TOWN COUNCIL WORK SESSION

Monday, February 7, 2005 7:30pm Town Hall Conference Room North Kingstown, Rhode Island







The North Kingstown Town Council will be discussing a site assessment report that was prepared for the RI Department of Transportation (RIDOT) by Vanasse Hangen Brustlin (VHB). VHB was hired by the RIDOT to prepare a feasibility study for the potential creation of a bike path to connect Wickford Junction to Wickford village. As a part of this study, VHB analyzed the possibility of utilizing the former railroad right-of-way that parallels Route 102 as a way to achieve this bike path linkage. This report is available in the Planning Department, 55 Brown Street, the North Kingstown Free Library, 100 Boone Street, or on-line at <a href="http://www.northkingstown.org/planningdept/bikeways.htm">http://www.northkingstown.org/planningdept/bikeways.htm</a>. The Town Council will hold this work session to discuss the findings of this report and determine whether to advance any segment of this bike path in the Transportation Improvement Program (TIP).

Please contact Rebecca Pellerin, Principal Planner, for further information at 294-3331, Ext. 312 or bpellerin@northkingstown.org.

The Town of North Kingstown will provide interpreters for the hearing impaired, provided a request is received at least three (3) days prior to the meeting by calling 294-3331, Extension 120.





# DOCKET OF THE COUNCIL

#### TOWN OF NORTH KINGSTOWN

TOWN COUNCIL SPECIAL/WORK SESSION MEETING
MONDAY, FEBRUARY 7, 2005
TOWN HALL CONFERENCE ROOM
80 BOSTON NECK ROAD
7:30 P.M.
AMENDED FEBRUARY 3, 2005

#### TOWN COUNCIL

Anthony F. Miccolis, Jr. Council President

Edward J. Toomey Council Member

Suzanne M. Henseler Council Member

John A. Patterson Council Member

Mark S. Zaccaria Council Member

#### SPECIAL MEETING

- 1. Call to Order
- 2. Salute to Flag
- 3. Executive Session pursuant to Rhode Island General Laws 42-46-4 and 42-46-5, Subsection (5) Real Estate
- 4. PUBLIC HEARING Transportation Enhancement Program Gilbert Stuart Birthplace and Museum Parking Lot Application \$10,000.00
- 5. Natural Resources Conservation Services Application
- 6. Ratification of Settlement and Appropriation from the Self Insurance Fund
- 7. Request for a Leave of Absence
- 8. Resolution Regarding Rhode Island Jobs

#### **WORK SESSION**

- 1. Audit Presentation
- 2. Property Tax Reform
- Wickford Junction to Wickford Village Bike Path
- 4. Discussion of Budget for FY 2006



# NORTH KINGSTOWN, RHODE ISLAND

80 BOSTON NECK ROAD NORTH KINGSTOWN, R.I. 02852-5762 PHONE: (401) 294-3331 www.northkingstown.org

April 14, 2004

Steven Devine, Chief of Program Development Intermodal Planning RIDOT Two Capitol Hill, Rm. 372 Providence, RI 02903

Re: Wickford to Wickford Junction Bikeway

Dear Mr. Devine:

The Town is in the process of reviewing the *South County Bike Facilities Wickford Junction to Wickford Village Bike Path* site assessment report. Planning Staff has forwarded this report to the North Kingstown Town Council for their review and consideration. Given that this time of year brings the budget season for the Town, we will be unable to review and comment on the report before the April 30, 2004 deadline. We would like to request an extension of several months to allow the Town Council sufficient time to review the report once the budget process has been completed. We appreciate all of the effort that has gone into the preparation of this report and would like to give it due diligence in our review.

If you should have any questions or require additional information, please feel free to contact me at 294-3331, Extension 310 or Rebecca J. Pellerin, Principal Planner, at Extension 312. Thank you in advance for all of your consideration in reviewing this request.

Sincerely,

CC:

Marilyn F. Cohen Director of Planning

Richard Kerbel, Town Manager

aulyn F. Coluce

Steven Church, RIDOT Bicycle and Pedestrian Program Coordinator

Rebecca J. Pellerin, Principal Planner

Appendices

# **Appendix**

- Study Area Graphics
  - Wetlands and Threatened and Endangered Species
  - Land Use/Land Cover Graphic
  - Historic and Archeological Areas
  - Floodplain Limits
- Structural Evaluation
- **Environmental Reports and Correspondence**
- Tax Assessor Maps and Property Ownership Tables
- Roadway, Bike Routes and Transit Details
  - A Guide to Cycling in the Ocean State Map
  - State of Rhode Island 'Highway Functional Classification'
  - South County Bike Path Map
  - Rhode Island 'Traffic Flow Map'
  - RIPTA 'Rack n Ride' Program and Schedules
- Correspondence & Meeting Notes
- Vehicle Accident Summary
- Garofalo Plan at the RIDOT Maintenance Facility
- Cost Estimate Summary
- Crossing and Stopping Sight Distance Charts

Study Area Graphics

# **STUDY AREA GRAPHICS**

71489LU.dwg 03-18-03 by dwhite. Legend Limits of Study Area Proposed Bikeway Alignment Stony Lane North Land Use Kingstown Agricultural Stony Lane Commercial Industrial Cocumscussoc State Park Institutional Recreation Cocumscussoc Residential Transportation / Utility Fishing Cocumquussoc State Park Rabbit Waste/Dump Cove Shore Acres Cornelius Island Land Cover Brushland/Forest Open Space/Vacant Land Wickford Harbor Water Exeter Wetlands (102) Wickford Cove Little Tree Point Belleville Pond Wil Goose Point Annaquatucket Reservoir 1000 2000 Feet Approximate Scale Vanasse Hangen Brustlin, Inc. Mill Pond Bissel Cove B Land Use / Land Cover Wickford Junction Spur North Kingstown, Rhode Island Kettle Hole

Structural Evaluation

# STRUCTURAL EVALUATION

#### Wickford Junction Spur – Twin Box Culvert



This brook crossing consists of a twin box culvert with two 4'-0" wide by 4'-0" high openings. The existing structure is cast-in-place concrete. From the field investigation, the middle leg on the downstream side is deteriorated and appears to be undermined. The upstream side of the culvert was not accessible for inspection. The approach walls adjacent to the culvert are dry laid stone walls and extend approximately six to ten feet following along the abandoned railroad right-of-way, except for the northeast wingwall which is parallel to the brook with a length of approximately 3'-6".

At this location rather than repairing the culvert, we recommend replacing the existing structure with a new precast concrete twin box culvert with precast headwalls, see Figure 1. Mechanically stabilized earth (MSE) walls can be used at this location if modificiations to the walls are required by a change in the profile or if impacted by the replacement of the culvert.

#### Wickford Junction Spur – Stone Arch Bridges

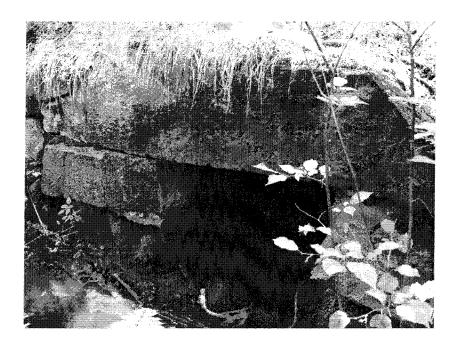




At this crossing, two stone arch bridges are located adjacent to one another. These arches carry the existing abandoned railroad right-of-way over a waterway. One of the arches has a brook running under it, the other has a dry streambed. The east arch is a barrel arch which is 6'-6" at its highest point and 7'-6" at its widest point with a 5' high headwall. The west arch is similar construction with a 6'-0" high opening that is 7'-0" at its widest point with a 2' high headwall. The approach walls for both structures are constructed of dry laid stone. The overall length of the east arch and walls is approximately 28 feet and the west is approximately 35 feet.

Both arches appear to be in good condition and could be kept for the future use on the bikeway. Some repairs will be required including the removal of trees over the arches. Also, rebuilding and repointing in isolated areas is required to repair these structures, see Figure 2. In addition to stone repairs, a railing system is recommended to be added to this structure for safety purposes.

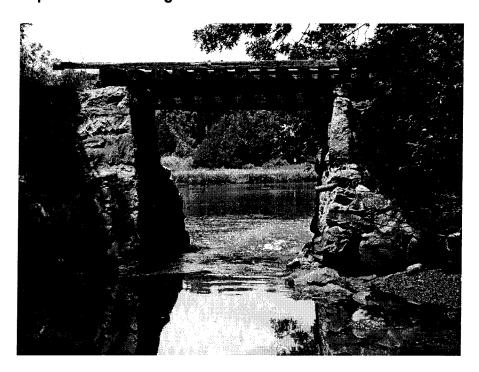
#### Wickford Junction Spur - Box Culvert



The culvert at this location is a stone culvert. This structure provides a 3'-4" wide by 3'-6" high opening on the upstream side and a 3'-4" wide by 4'-2" high opening on the downstream side, see Figure 3. The approach walls are dry laid stone and vary from approximately five to seven feet in length. The overall length of the structure is approximately 30 feet. The top slab/headwall is constructed of granite slabs. The existing structure does not show any signs of failure.

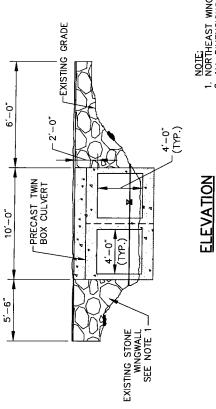
At this location, the stone culvert can remain in place, but construction would need to be performed with care not to damage the existing structure. The removal of the large trees that have grown over this structure may impact its structural integrity during their removal. To upgrade this structure to acceptable standards, pointing of the walls is recommended in addition to adding an independent railing system. Any changes to the existing profile for the future bikepath may affect the ability to reuse this structure.

#### Wickford Junction Spur - Timber Bridge



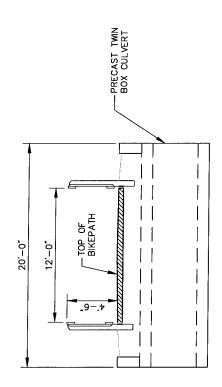
The existing timber bridge at this location served as a railroad bridge. The structure is an open deck structure supported on timber stringers. The timber ties are supported on two sets of three timber stringers. A timber walkway constructed of 1"x5" planks with an approximate width of 2'-6" has been recently added to provide a walking surface on the bridge. The timber superstructure is supported on stone abutments which are exposed to tidal action. The bridge spans approximately 15'-4" with an overall width of 9'-10". The abutments are approximately 9'-6" high. The existing wingwalls extend approximately 24 feet on the west side and approximately 14 feet on the east side parallel to the abandoned railroad right-of-way.

At this crossing, it is recommended to reuse the existing abutments and replace the existing superstructure with a new timber structure. The proposed superstructure will be timber stringers supporting a timber deck with timber railings providing a clear lane width of 12 feet, see Figure 4. The top of the abutments will be modified to accommodate the proposed wider superstructure. In addition to the modifications to the beamseat, the abutments and wingwalls also need to be repointed.



NOTE: 1. NORTHEAST WINGWALL PERPENDICULAR TO STRUCTURE. 2. ALL DIMENSIONS SHOWN ARE APPROXIMATE.

SCALE: NTS



SCALE: NTS

Vanasse Hangen Brustin, Inc.

Figure 1 August 6, 2003

WICKFORD JUNCTION SPUR

North Kingstown, Rhode Island

N:171488\technetructures\elsetch.dwg

<u>NOTES:</u> 1. DIMENSIONS SHOWN ARE APPROXIMATE

- BOTTOM OF STREAMBED -EXISTING GRANITE SLAB DOWNSTREAM ELEVATION -TOP OF BIKEPATH SCALE: NTS 30'-0" 12'-0" "9-,<del>b</del>

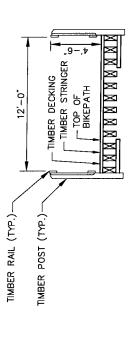
SCALE: NTS SECTION

Figure 3 August 6, 2003
WICKPORD JUNCTION SPUR
North Kingstown, Rhode Island

NOTE: ALL DIMENSIONS SHOWN ARE APPROXIMATE

ELEVATION

SCALE: NTS



SCALE: NTS

Vanasse Hangen Brustlin, Inc.
Figure 4 August 6, 2003
WICKFORD JUNCTION SPUR
North Kingstown, Rhode Island

**Environmental Reports** and Correspondence

## ENVIRONMENTAL REPORTS AND CORRESPONDENCE

# FirstSearch Technology Corporation

# **Environmental FirstSearch™ Report**

#### TARGET PROPERTY:

#### TEN ROD ROAD

#### **NORTH KINGSTOWN RI 02852**

Job Number: 71489

#### PREPARED FOR:

Vanasse Hangen Brustlin, Inc.
530 Broadway
Providence, RI 02909-1820

07-10-03



Tel: (781) 320-3720

Fax: (781) 320-3715

#### Environmental FirstSearch Search Summary Report

Target Site: TEN ROD ROAD

**NORTH KINGSTOWN RI 02852** 

FirstSearch Summary

	FirstSearch Summary										
Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS	
					_		_	_		_	
NPL	Y	05-08-03	1.00	0	0	0	0	0	0	0	
CERCLIS	Y	06-09-03	0.50	0	0	0	0	-	0	0	
NFRAP	Y	06-09-03	0.25	0	0	0	-	-	0	0	
RCRA TSD	Y	12-09-02	0.50	0	0	0	0	-	0	0	
RCRA COR	Y	12-09-02	1.00	0	0	0	0	0	0	0	
RCRA GEN	Y	12-09-02	0.25	0	5	4	-	-	0	9	
RCRA NLR	N	12-09-02	0.25	-	-	-	-	-	-	-	
ERNS	Y	12-31-02	0.15	0	0	0	-	-	0	0	
NPDES	N	04-15-03	0.25	-	-	-	-	-	-	-	
FINDS	N	07-16-98	0.25	-	-	-	-	-	-	-	
TRIS	N	03-07-03	0.25	-	-	-	-	-	-	-	
State Sites	Y	02-24-03	0.50	0	0	1	0	-	0	1	
Spills-1990	Y	01-04-01	0.15	1	1	1	-	-	3	6	
Spills-1980	N	NA	0.15	-	-	-	-	_	_	-	
SWL	$\mathbf{Y}$	01-24-01	0.50	0	0	0	0	-	0	0	
Permits	N	NA	0.25	-	-	-	-	-	-	-	
Other	N	NA.	0.25	-	-	-	-	-	-	-	
REG UST/AST	Y	08-30-02	0.15	0	14	2	-	-	0	16	
Leaking UST	Y	02-24-03	0.50	0	4	2	6	-	0	12	
State Wells	N	07-11-00	0.50	_	_	-	-	-	-	-	
Aquifers	N	10-21-98	0.50	_	-	-	-	-	-	-	
AĈEC	N	03-15-00	0.50	_	_	_	_	-	_	-	
Wetlands	N	11-20-00	0.50	_	-	-		-	-	_	
Floodplains	N	05-13-98	0.50	_	-	-	-	-	-	-	
Nuclear Permits	N	04-30-99	0.50		-	-	-	-	-		
Historic/Landmark	N	09-01-02	0.50	_	_	_	-	_	-	-	ŀ
Federal Land Use	N	06-17-98	0.50	_	_	_	_	-	-	_	ł
Federal Wells	N	NA	0.50	_	-	_	_	_	_	_	
Releases(Air/Water		12-31-01	0.25	-	_	-	_	_	-	-	
HMIRS	N	05-24-02	0.25	•••	_	_	_	_	-	-	ı
NCDB	N	03-28-02	0.25	_	-	_	_	-	_	<u></u>	1
PADS	N	03-01-03	0.25	-	_	_	_	_	_	-	ı
Federal Other	N	NA	0.25	_	_	_	-	_	-	-	ſ
Misc	N	NA	0.25	_	-	-	_	_	-	-	
Towers	N	08-16-01	0.25	_	_	_	-	-	-	-	
Soils	N	03-18-97	0.25	_	_	-	_	-	_	-	f
Receptors	N	01-01-95	0.50	-	-	-	-	-	-	-	
- TOTALS -				1	24	10	6	0	3	44	

#### Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to FirstSearch Technology Corp., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in FirstSearch Technology Corp.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

#### Waiver of Liability

Although FirstSearch Technology Corp. uses its best efforts to research the actual location of each site, FirstSearch Technology Corp. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of FirstSearch Technology Corp.'s services proceeding are signifying an understanding of FirstSearch Technology Corp.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

#### Environmental FirstSearch Site Information Report

Request Date:

07-10-03

Requestor Name:

Chris Mazzolini

Standard:

**ASTM** 

Search Type:

LINEAR

Job Number:

71489

Filtered Report

TARGET ADDRESS:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

#### Demographics

Sites:

44

Non-Geocoded: 3

Population: NA

Radon: 0.3 - 20.1 PCI/L

#### Site Location

	Degrees (Decimal)	Degrees (Min/Sec)		<u>UTMs</u>
Longitude:	-71.470703	-71:28:15	Easting:	294000.29
Latitude:	41.570995	41:34:16	Northing:	4604881.364
			Zone:	19

#### Comment

Comment:

## Additional Requests/Services

	Adjacent ZIP Codes: 0 Mile(s)				Services:
	ZIP Code	City Name	ST	Dist/Dir Sel	
					Sanborns Aerial Photog
					Topographica
					City Directori
					Title Search
۱					Municipal Re
I					Online Topos

	Requested?	Date
Sanborns	No	
Aerial Photographs	No	
Topographical Maps	No	•
City Directories	No	
Title Search	No	
Municipal Reports	No	
Online Topos	No	

## Environmental FirstSearch Sites Summary Report

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

JOB:

71489

TOTAL:

44

GEOCODED: 41

NON GEOCODED: 3

SELECTED:

ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
11	SPILLS	10735	435 TOWER HILL ROAD NORTH KINGSTOW RI 02852	0.00 —	14
29	UST	ROBERT S HEALTH CARE CENTER	940 TEN ROD ROAD NORTH KINGSTOW RI 02852	0.01 NW	35
3	RCRAGN	UPDIKE DENTAL SERVICES INC RIR000012989/VGN	29 UPDIKE AVE WICKFORD RI 02852	0.02 NW	5
21	UST	WICKFORD LUMBER 15307	434 TOWER HILL ROAD NORTH KINGSTOW RI 02852	0.03 NE	27
15	UST	GEORGE JARVIS JR 16761	242 LINDLEY AVE NORTH KINGSTOW RI 02852	0.03 SE	21
19	UST	MR. SHERRY (FORMER GAS STATION) 15521	460 TOWER HILL ROAD NORTH KINGSTOW RI 02852	0.03 SW	25
16	UST	NORTH KINGSTOWN TOWN HALL 00930	80 BOSTON NECK RD NORTH KINGSTOW RI 02852	0.05 NW	23
23	UST	BAKEFORD PROP (MILL AT LAFAYETTE) 18588	650 TEN ROD ROAD NORTH KINGSTOW RI 02852	0.06 NE	29
14	UST	DAGNY NELSON 16015	204 BEACH STREET NORTH KINGSTOW RI 02852	0.06 SE	19
37	LUST	WELSON 2309-LS/SRO - SOIL REMOVAL O	204 BEACH STREET NORTH KINGSTOW RI 02852	0.06 SE	19
13	SPILLS	840 TEN ROD ROAD 96-203	840 TEN ROD ROAD NEWPORT RI 02852	0.07 NE	16
18	UST	BELLEVILLE GARAGE (D.O.T.) 01283	415 TOWER HILL RD NORTH KINGSTOW RI 02852	0.07 NE	7
40	LUST	CONLEY PROPERTY 2343-LS/I - INACTIVE	840 TEN ROD ROAD NORTH KINGSTOW RI 02852	0.07 NE	16
5	RCRAGN	RI D O T MAINTENANCE DIV RID987466620/SGN	415 TOWER HILL RD NORTH KINGSTOW RI 02852	0.07 NE	7
36	LUST	RI DOT 2301-LS/SRO - SOIL REMOVAL O	415 TOWER HILL RD. NORTH KINGSTOW RI 02852	0.07 NE	7
20	UST	ST. BERNARD S CHURCH 02043	410 TOWER HILL RD NORTH KINGSTOW RI 02852	0.07 NE	26
24	UST	CAMPUS AT LAFAYETTE 18273	580 TEN ROD ROAD NORTH KINGSTOW RI 02852	0.08 NE	30
8	RCRAGN	WAL-MART STORE #2661 RIR000500686/SGN	1031 TEN ROD RD NORTH KINGSTOW RI 02852	0.08 NE	10
7	RCRAGN	NORTH KINGSTOWN POLICE GARAGE RID982748014/SGN	36 WARBUTON AVE NORTH KINGSTOW RI 02852	0.09 NE	9
9	RCRAGN	WICKFORD JUNCTION MEDICAL WALK IN RIR000017475/VGN	1051 TEN ROD RD NORTH KINGSTOW RI 02852	0.09 NE	11
27	UST	DONN CARLSON 15678	825 TEN ROD ROAD NORTH KINGSTOW RI 02852	0.11 NE	33

## Environmental FirstSearch Sites Summary Report

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

**JOB:** 71489

TOTAL:

44

GEOCODED: 41 NON GEOCODED: 3

SELECTED:

ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
25	UST	INTERNATIONAL DIOXIDE INC 03258	554 TEN ROD RD NORTH KINGSTOW RI 02852	0 11 NE	31
28	UST	MCKAYS FRONT PORCH 17007	740 TEN ROAD ROAD NORTH KINGSTOW RI 02852	0 11 NE	34
41	LUST	LAFAYETTE NURSING HOME 2329-ST/I - INACTIVE	691 TEN ROD ROAD NORTH KINGSTOW RI 02852	0.12 NE	32
26	UST	LAFAYETTE NURSING HOME, INC. 02274	691 TEN ROD RD NORTH KINGSTOW RI 02852	0.12 NE	32
1	RCRAGN	BREWERS WICKFORD COVE MARINA RID987491305/SGN	65 REYNOLDS ST NORTH KINGSTOW RI 02852	0.13 NE	1
12	SPILLS	530 TOWER HILL ROAD 97-253-1	530 TOWER HILL ROAD NORTH KINGSTOW RI 02852	0.13 SW	15
17	UST	WICKBAY PROPERTIES 00473	65 REYNOLDS ST NORTH KINGSTOW RI 02852	0.15 NE	24
22	UST	O NEILL OIL SERVICE, INC. 00696	549 TOWER HILL ROAD NORTH KINGSTOW RI 02852	0.15 SW	28
6	RCRAGN	BAILEY MOTOR SALES INC RID018512178/SGN	425 TEN ROD RD NORTH KINGSTOW RI 02852	0 17 NE	8
39	LUST	BAILEY S MOTOR SALES, INC. 2325-LS/I - INACTIVE	425 TEN ROD ROAD NORTH KINGSTOW RI 02852	0.17 NE	8
33	LUST	FLEET BANK 2348-ST/SRO - SOIL REMOVAL O	30 PHILLIPS STREET NORTH KINGSTON RI 05828	0.19 NW	20
10	STATE	SHELL FACILITY # 139047 SHEF-HWM/ACTIVE	10 TEN ROD ROAD NORTH KINGSTOW RI	0.20 NE	12
4	RCRAGN	X RAY ASSOCIATES INC RID987469939/SGN	320 PHILLIP ST NORTH KINGSTOW RI 02852	0.20 NE	6
2	RCRAGN	SHEHAN JARED D DMD INC RID987492865/SGN	145 PHILLIPS ST NORTH KINGSTOW RI 02852	0.23 NW	4
32	LUST	BROOKS PHARMACY 2346-ST/SRO - SOIL REMOVAL O	63 BROWN STREET NORTH KINGSTOW RI	0.28 NW	18
31	LUST	BEECHWOOD HOUSE 2315-LS/SRO - SOIL REMOVAL O	10 BEACH STREET NORTH KINGSTOW RI 02852	0.32 SE	17
38	LUST	WICKFORD SHIPYARD 2337-LS/A - ACTIVE	125 STEAMBOAT AVENUE NORTH KINGSTOW RI 02852	0.35 NE	2
34	LUST	MOBIL STATION -OLIVERS 2334-LS/SRO - SOIL REMOVAL O	43 WEST MAIN ST NORTH KINGSTOW RI 02852	0.39 NW	3
35	LUST	NORTH KINGSTOWN FREE LIBRARY 2312-LS/SRO - SOIL REMOVAL O	100 BOONE STREET NORTH KINGSTOW RI 02852	0.42 NW	<b>22</b>
30	LUST	22 LAWTON STREET 2321-LS/I - INACTIVE	22 LAWION STREET NORTH KINGSTOW RI 02852	0.45 NE	13

## Environmental FirstSearch Sites Summary Report

TARGET SITE:

TEN ROD ROAD

**JOB:** 71489

NORTH KINGSTOWN RI 02852

SELECTED:

TOTAL: 44 GEOCODED: 41

NON GEOCODED: 3

ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
42	SPILLS	CRN BOSTON NECK RD & EA 98-407	CRN BOSTON NECK RD & EA NORTH KINGSTOW RI 02852	NON GC	
43	SPILLS	TEN ROD ROAD 00-025	TEN ROD ROAD NORTH KINGSTOW RI 02852	NON GC	
44	SPILLS	TOWER HILL ROAD 95-435	TOWER HILL ROAD NORTH KINGSTOW RI 02852	NON GC	

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

STATE SPILLS SITE							
SEARCH ID: 11	DIST/DIR:	0.00		MAP ID:	14		
NAME: ADDRESS: 435 TOWER HILL ROAD NORTH KINGSTOWN RI CONTACT:		REV: ID1: ID2: STATUS: PHONE:	1/04/01 10735				
SITE INFORMATION  COMPLAINT DATE: COMPLAINT NUMBER: INSPECTION DATE: FOUNDED: AMOUNT OF MATERIAL:	8/5/00 13675 8/5/00 Y 30 GALLONS						

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

JOB:

71489

REGISTERED UNDERGROUND STORAGE TANKS					
SEARCH ID: 29	DIST/DIR:	0.01 NW		MAP ID:	35
NAME: ROBERT S HEALTH CARE CENTER ADDRESS: 940 TEN ROD ROAD NORTH KINGSTOWN RI  CONTACT:	-	REV: ID1: ID2: STATUS: PHONE:	8/01/02 18374		

#### SITE INFORMATION

TOTAL NUMBER OF TANKS:

TANK ID:

DATE INSTALLED:

STATUS:

04-25-01

PERMANENTLY CLOSED

CAPACITY (GAL):

PRODUCT STORED:

HEATING OIL NO 2

TANK ID:

DATE INSTALLED:

STATUS:

04-25-01

PERMANENTLY CLOSED

CAPACITY (GAL):

PRODUCT STORED:

WASTE OIL

TANK ID:

DATE INSTALLED:

04-25-01

STATUS:

CAPACITY (GAL):

PRODUCT STORED:

PERMANENTLY CLOSED

HEATING OIL NO 2

TANK ID:

DATE INSTALLED:

06-01-62

STATUS:

PERMANENTLY CLOSED 4,000

CAPACITY (GAL): PRODUCT STORED:

GASOLINE

TANK ID:

DATE INSTALLED:

06-01-62

STATUS:

PERMANENTLY CLOSED

CAPACITY (GAL):

4,000

PRODUCT STORED:

GASOLINE

TANK ID:

DATE INSTALLED:

06-01-62

STATUS:

PERMANENTLY CLOSED

CAPACITY (GAL): PRODUCT STORED: 1,000 GASOLINE

TARGET SITE:

**ENFORCEMENT INFORMATION:** 

**VIOLATION INFORMATION:** 

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

	RCRA GENER	RATOR SITE	
SEARCH ID: 3	DIST/DIR:	0.02 NW	<b>MAP ID:</b> 5
NAME: UPDIKE DENTAL SERVICES INC ADDRESS: 29 UPDIKE AVE WICKFORD RI 02852  CONTACT:		REV: ID1: ID2: STATUS: PHONE:	12/9/02 RIR000012989 VGN
SITE INFORMATION UNIVERSE TYPE: CEG - CONDITIONALLY EXEMPT SMALL QUANTIVASTE SIC INFORMATION:	TY GENERATORS: GEN	ERATES LESS THAN 10	00 KG/MONTH OF HAZARDOUS

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

REGIST	REGISTERED UNDERGROUND STORAGE TANKS							
SEARCH ID: 21	DIST/DIR:	0.03 NE		MAP ID:	27			
NAME: WICKFORD LUMBER ADDRESS: 434 TOWER HILL ROAD NORTH KINGSTOWN RI 02852  CONTACT:		REV: ID1: ID2: STATUS: PHONE:	8/01/02 15307					
SITE INFORMATION								
TOTAL NUMBER OF TANKS:  1  TANK ID: DATE INSTALLED: STATUS: PERMAI CAPACITY (GAL): PRODUCT STORED:  GASOLI	NENTLY CLOSED							

REGISTERED UNDERGROUND STORAGE TANKS							
SEARCH ID: 15	DIST/DIR:	0.03 SE		MAP ID:	21		
NAME: GEORGE JARVIS JR ADDRESS: 242 LINDLEY AVE NORTH KINGSTOWN R CONTACT:	I 02852	REV: ID1: ID2: STATUS: PHONE:	8/01/02 16761				
SITE INFORMATION							
TOTAL NUMBER OF TANKS:  TANK ID: DATE INSTALLED: STATUS: CAPACITY (GAL): PRODUCT STORED:	1 04-25-01 PERMANENTLY CLOSED 3,000 HEATING OIL NO 2						

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RJ 02852

JOB:

71489

REGISTERED UNDERGROUND STORAGE TANKS					
SEARCH ID: 19	DIST/DIR:	0.03 SW		MAP ID:	25
NAME: MR. SHERRY (FORMER GAS STATION) ADDRESS: 460 TOWER HILL ROAD NORTH KINGSTOWN RI 02852  CONTACT:		REV: ID1: ID2: STATUS: PHONE:	8/01/02 15521		

#### SITE INFORMATION

TOTAL NUMBER OF TANKS:

TANK ID:

04-01-68 DATE INSTALLED:

STATUS:

PERMANENTLY CLOSED

CAPACITY (GAL):

4,000

PRODUCT STORED:

GASOLINE

TANK ID:

DATE INSTALLED:

STATUS:

04-01-68

CAPACITY (GAL):

PERMANENTLY CLOSED

PRODUCT STORED:

GASOLINE

TANK ID:

DATE INSTALLED:

STATUS:

04-01-68 PERMANENTLY CLOSED

CAPACITY (GAL):

1,000

PRODUCT STORED:

GASOLINE

TANK ID:

DATE INSTALLED:

04-01-68

STATUS:

PERMANENTLY CLOSED

CAPACITY (GAL):

1,000 GASOLINE

PRODUCT STORED:

TANK ID: DATE INSTALLED:

04-01-68

STATUS:

PERMANENTLY CLOSED

CAPACITY (GAL):

PRODUCT STORED:

GASOLINE

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

**JOB:** 71489

REGISTERED UNDERGROUND STORAGE TANKS						
SEARCH ID: 16	DIST/DIR:	0.05 NW		MAP ID:	23	
NAME: NORTH KINGSTOWN TOWN HALL ADDRESS: 80 BOSTON NECK RD NORTH KINGSTOWN RI 02852  CONTACT:		REV: ID1: ID2: STATUS: PHONE:	8/01/02 00930			

#### SITE INFORMATION

TOTAL NUMBER OF TANKS:

TANK ID:

DATE INSTALLED:

04-25-01

STATUS:

PERMANENTLY CLOSED

CAPACITY (GAL):

PRODUCT STORED:

GASOLINE

TANK ID:

DATE INSTALLED:

04-25-01

STATUS: CAPACITY (GAL): PERMANENTLY CLOSED

1,000

PRODUCT STORED:

HEATING OIL NO 2

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

REGISTERED UNDERGROUND STORAGE TANKS							
SEARCH ID: 23	DIST/DIR:	0.06 NE		MAP ID:	29		
NAME: BAKEFORD PROP (M. ADDRESS: 650 TEN ROD ROAD NORTH KINGSTOWN CONTACT:		REV: ID1: ID2: STATUS: PHONE:	8/01/02 18588				
<u>SITE INFORMATION</u>							
TOTAL NUMBER OF TANKS:	1						
TANK ID: DATE INSTALLED: STATUS: CAPACITY (GAL): PRODUCT STORED:	1 04-25-01 PERMANENTLY CLOSED 5,000 HEATING OIL NO 6						

REGISTERED UNDERGROUND STORAGE TANKS							
SEARCH ID: 14	DIST/DIR:	0.06 SE		MAP ID:	19		
NAME: DAGNY NELSON ADDRESS: 204 BEACH STREET NORTH KINGSTOWN CONTACT:	RI 02852	REV: ID1: ID2: STATUS: PHONE:	8/01/02 16015				
<u>SITE INFORMATION</u> TOTAL NUMBER OF TANKS:	1						
TANK ID: DATE INSTALLED: STATUS: CAPACITY (GAL): PRODUCT STORED:	1 04-25-01 PERMANENTLY CLOSED 1,000 HEATING OIL NO 2						

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

**JOB:** 71489

LEAKING	G UNDERGI	ROUND S	IUKAGE I	ANA

SEARCH ID: 37

DIST/DIR:

0.06 SE

MAP ID:

19

NAME:

WELSON

ADDRESS: 204 BEACH STREET

NORTH KINGSTOWN RI

REV: ID1:

2/24/03 2309-LS

m2:

STATUS:

SRO - SOIL REMOVAL ONLY

PHONE:

CONTACT:

PROJECT DATE:

2/22/1991 0:00:00

STATE SPILLS SITE

SEARCH ID: 13 DIST/DIR:

0.07 NE

MAP ID:

16

NAME:

840 TEN ROD ROAD

ADDRESS: 840 TEN ROD ROAD

NORTH KINGSTOWN RI 02852

REV: ID1:

4/10/00 96-203

ID2:

STATUS: PHONE:

CONTACT: JBALL

SPILL DATE:

05-09-96

SPILL NOTIFIER:

BRETT BISHOP

STAFF:

J BALL

MATERIAL SPILLED: SPILL AMOUNT REPORTED:

CRANKCASE OIL

INCIDENT:

SOURCE OF SPILL:

ON PROPERTY

LUST?:

PCB LEVEL:

SOIL CONTAMINATED?:

TARGET SITE:

TEN ROD ROAD NORTH KINGSTOWN RI 02852

	REGISTERED UNDERGRO	OUND STORAGE T	ANKS		
SEARCH ID: 18	DIST/DIR:	0.07 NE		MAP ID:	7
NAME: BELLEVILLE GARA ADDRESS: 415 TOWER HILL RI NORTH KINGSTOW	D	REV: ID1: ID2: STATUS:	8/01/02 01283		
CONTACT:		PHONE:			· · · · · · · · · · · · · · · · · · ·
SITE INFORMATION					
TOTAL NUMBER OF TANKS:	10				
TANK ID: DATE INSTALLED: STATUS: CAPACITY (GAL): PRODUCT STORED:	1 05-01-65 PERMANENTLY CLOSED 2,000 GASOLINE				
TANK ID: DATE INSTALLED: STATUS: CAPACITY (GAL): PRODUCT STORED:	10 03-01-50 PERMANENTLY CLOSED 250 GASOLINE				
TANK ID: DATE INSTALLED: STATUS: CAPACITY (GAL): PRODUCT STORED:	2 05-01-77 PERMANENTLY CLOSED 10,000 GASOLINE				
TANK ID: DATE INSTALLED: STATUS: CAPACITY (GAL): PRODUCT STORED:	3 05-01-65 PERMANENTLY CLOSED 2,000 DIESEL				
TANK ID: DATE INSTALLED: STATUS: CAPACITY (GAL): PRODUCT STORED:	4 03-01-88 IN USE 6,000 DIESEL				
TANK ID: DATE INSTALLED: STATUS: CAPACITY (GAL): PRODUCT STORED:	5 05-01-65 PERMANENTLY CLOSED 2,000 DIESEL				
TANK ID: DATE INSTALLED:	6 09-01-90	- Con	tinued o	n next page -	

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

I	REGISTERED UNDERGRO	OUND STORAGE TA	NKS		
SEARCH ID: 18	DIST/DIR:	0.07 NE		MAP ID:	7
NAME: BELLEVILLE GARAGE (D ADDRESS: 415 TOWER HILL RD NORTH KINGSTOWN RICE CONTACT:		102.0	8/01/02 01283		
STATUS: CAPACITY (GAL): PRODUCT STORED:	IN USE 12,000 GASOLINE				
TANK ID: DATE INSTALLED: STATUS: CAPACITY (GAL): PRODUCT STORED:	7 03-01-50 PERMANENTLY CLOSED 1,000 HEATING OIL NO 2				
TANK ID: DATE INSTALLED: STATUS: CAPACITY (GAL): PRODUCT STORED:	8 03-01-50 PERMANENTLY CLOSED 5,000 HEATING OIL NO. 2				
TANK ID: DATE INSTALLED: STATUS: CAPACITY (GAL): PRODUCT STORED:	9 03-01-50 PERMANENTLY CLOSED 1,000 WASTE OIL				

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

**JOB:** 71489

LEAKII	NG UNDERGROU	IND STORAGE TA	ANKS
SEARCH ID: 40	DIST/DIR:	0.07 NE	MAP ID: 16
NAME: CONLEY PROPERTY ADDRESS: 840 TEN ROD ROAD NORTH KINGSTOWN RI		REV: ID1: ID2:	2/24/03 2343-LS I - INACTIVE
CONTACT:		STATUS: PHONE:	1-INACTIVE

RCRA GENERATOR SITE					
SEARCH	ID: 5	DIST/DIR:	0.07 NE	MAP ID: 7	
NAME: ADDRESS:	RI D O T MAINTENANCE DIV 415 TOWER HILL RD NORTH KINGSTOWN RI 02852		REV: ID1: ID2:	12/9/02 RID987466620	
CONTACT:			STATUS: PHONE:	SGN	

#### SITE INFORMATION

UNIVERSE TYPE:

SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

SIC INFORMATION:

4119 - TRANS & UTILITIES - LOCAL PASSENGER TRANSPORTATIO

**ENFORCEMENT INFORMATION:** 

VIOLATION INFORMATION:

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

JOB:

71489

SEARCH ID: 36

DIST/DIR:

0.07 NE

MAP ID:

7

NAME:

RI DOT

ADDRESS: 415 TOWER HILL RD.

NORTH KINGSTOWN RI

REV: **ID1**:

2/24/03 2301-LS

ID2:

SRO - SOIL REMOVAL ONLY

STATUS:

PHONE:

CONTACT:

PROJECT DATE:

9/21/1990 0:00:00

#### REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 20

DIST/DIR:

0.07 NE

MAP ID:

26

NAME:

CONTACT:

ST. BERNARD S CHURCH

ADDRESS: 410 TOWER HILL RD

NORTH KINGSTOWN RI 02852

REV: ID1:

8/01/02 02043

ID2:

STATUS:

PHONE:

SITE INFORMATION

TOTAL NUMBER OF TANKS:

TANK ID:

DATE INSTALLED:

STATUS:

04-25-01 IN USE

CAPACITY (GAL):

1,000

PRODUCT STORED:

HEATING OIL NO 2

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

REGISTERED UNDERGROUND STORAGE TANKS								
SEARCH ID: 24	DIST/DIR:	0.08 NE		MAP ID:	30			
NAME: CAMPUS AT LAFAYET ADDRESS: 580 TEN ROD ROAD NORTH KINGSTOWN I		REV: ID1: ID2: STATUS: PHONE:	8/01/02 18273					
SITE INFORMATION TOTAL NUMBER OF TANKS:	t							
TANK ID: DATE INSTALLED: STATUS: CAPACITY (GAL): PRODUCT STORED:	1 04-25-01 PERMANENTLY CLOSED 1,000 HEATING OIL NO. 2							

RCRA GENERATOR SITE						
SEARCH ID: 8	DIST/DIR:	0.08 NE	MAP ID:	10		
NAME: WAL-MART STORE #2661 ADDRESS: 1031 TEN ROD RD NORTH KINGSTOWN RI 02852 CONTACT:		REV: ID1: ID2: STATUS: PHONE:	12/9/02 RIR000500686 SGN			
SITE INFORMATION  UNIVERSE TYPE:  SQG - SMALL QUANTITY GENERATOR: GENERATE SIC INFORMATION:	ES 100 - 1000 KG/MONT	TH OF HAZARDOUS WA	STE			
ENFORCEMENT INFORMATION:  VIOLATION INFORMATION:						

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

JOB:

71489

RCRA GENERATOR SITE

SEARCH ID: 7

DIST/DIR:

0.09 NE

MAP ID:

9

CONTACT:

NORTH KINGSTOWN POLICE GARAGE

ADDRESS: 36 WARBUTON AVE

NORTH KINGSTOWN RI 02852

REV: ID1:

12/9/02

SGN

RID982748014

ID2:

STATUS:

PHONE:

SITE INFORMATION

UNIVERSE TYPE:

SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

SIC INFORMATION:

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

**JOB:** 71489

RCRA GENERATOR SITE					
SEARCH	<b>ID:</b> 9	DIST/DIR:	0.09 NE	MAP ID:	11
NAME: ADDRESS:	WICKFORD JUNCTION M 1051 TEN ROD RD NORTH KINGSTOWN RI 0		REV: ID1: ID2:	12/9/02 RIR000017475	
CONTACT:			STATUS: PHONE:	VGN	

#### SITE INFORMATION

#### UNIVERSE TYPE:

CEG - CONDITIONALLY EXEMPT SMALL QUANTITY GENERATORS GENERATES LESS THAN 100 KG/MONTH OF HAZARDOUS WASTE

#### SIC INFORMATION:

#### ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

**JOB:** 71489

REGISTERED UNDERGROUND STORAGE TANKS					
SEARCH ID: 27	DIST/DIR:	0.11 NE		MAP ID:	33
NAME: DONN CARLSON ADDRESS: 825 TEN ROD ROAD NORTH KINGSTOWN RI 02852  CONTACT:		REV: ID1: ID2: STATUS: PHONE:	8/01/02 15678		

#### SITE INFORMATION

TOTAL NUMBER OF TANKS:

2

TANK ID:

DATE INSTALLED:

04-01-49

STATUS:

PERMANENTLY CLOSED

CAPACITY (GAL): PRODUCT STORED: 1,000 GASOLINE

TANK ID:

DATE INSTALLED:

04-01-49

STATUS:

PERMANENTLY CLOSED 1,000

CAPACITY (GAL): PRODUCT STORED:

KEROSENE

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

REGISTERED UNDERGROUND STORAGE TANKS								
SEARCH ID: 25 DIST/	DIR: 0.11 NE	<b>MAP ID:</b> 31						
NAME: INTERNATIONAL DIOXIDE INC ADDRESS: 554 TEN ROD RD NORTH KINGSTOWN RI 02852  CONTACT:		7/01/02 3258						
SITE INFORMATION  TOTAL NUMBER OF TANKS: 1								
TANK ID:  DATE INSTALLED:  STATUS:  CAPACITY (GAL):  PRODUCT STORED:  12-01-81  PERMANENTLY CLOSES  1,000  HEATING OIL NO. 2	D							

SEARCH ID: 28  DIST/DIR: 0.11 NE  MAP ID:  NAME: MCKAYS FRONT PORCH  ADDRESS: 740 TEM POAD POAD  17007
NAME: MCKAIS FRONT FORCH
ADDRESS: 740 TEN ROAD ROAD NORTH KINGSTOWN RI 02852 ID2: STATUS: PHONE:

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

JOB:

71489

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 41 DIST/DIR:

0.12 NE

MAP ID:

32

NAME:

LAFAYETTE NURSING HOME

ADDRESS: 691 TEN ROD ROAD

NORTH KINGSTOWN RI

REV: ID1:

2/24/03 2329-ST

ID2:

I-INACTIVE

STATUS:

PHONE:

CONTACT:

PROJECT DATE:

10/4/1995 0:00:00

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 26 DIST/DIR:

0.12 NE

MAP ID:

32

NAME:

LAFAYETTE NURSING HOME, INC.

ADDRESS:

CONTACT:

691 TEN ROD RD

NORTH KINGSTOWN RI 02852

REV: **D**1:

8/01/02 02274

m2:

STATUS:

PHONE:

SITE INFORMATION

TOTAL NUMBER OF TANKS:

TANK ID:

DATE INSTALLED:

04-25-01

STATUS: CAPACITY (GAL): PERMANENTLY CLOSED

1,000

PRODUCT STORED:

HEATING OIL NO 2

TANK ID:

DATE INSTALLED:

04-25-01 PERMANENTLY CLOSED

STATUS: CAPACITY (GAL):

PRODUCT STORED:

GASOLINE

TARGET SITE:

TEN ROD ROAD NORTH KINGSTOWN RI 02852

RCRA GENERATOR SITE						
SEARCH ID: 1	DIST/DIR:	0.13 NE	MAP ID:	1		
NAME: BREWERS WICKFORD COVE MARINA ADDRESS: 65 REYNOLDS ST NORTH KINGSTOWN RI 02852  CONTACT:		REV: ID1: ID2: STATUS: PHONE:	12/9/02 RID987491305 SGN			
<u>SITE INFORMATION</u> UNIVERSE TYPE: SQG - SMALL QUANTITY GENERATOR: GENERATES 10	00 - 1000 KG/MONI	TH OF HAZARDOUS WA	ASTE			
SIC INFORMATION:						
ENFORCEMENT INFORMATION:						
VIOLATION INFORMATION:						

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

71489 JOB:

STATE SPILLS SITE

SEARCH ID: 12

DIST/DIR:

0.13 SW

MAP ID:

15

NAME:

530 TOWER HILL ROAD

REV: ID1:

4/10/00

ADDRESS: 530 TOWER HILL ROAD

97-253-1

NORTH KINGSTOWN RI

ID2:

CONTACT: T CAMPBELL

STATUS:

PHONE:

SPILL DATE:

06-12-97

SPILL NOTIFIER:

SEE ID 97-253 (DUP ID)

STAFF:

T CAMPBELL

MATERIAL SPILLED:

SPILL AMOUNT REPORTED:

HEATING OIL

25-30 GALLONS

INCIDENT:

SOURCE OF SPILL:

LUST?:

PCB LEVEL:

SOIL CONTAMINATED?:

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

JOB:

71489

REGISTERED UNDERGROUND STORAGE TANKS						
				25.22	04	
SEARCH ID: 17	DIST/DIR:	0.15 NE		MAP ID:	24	
NAME: WICKBAY PROPERTE ADDRESS: 65 REYNOLDS ST NORTH KINGSTOWN		REV: ID1: ID2: STATUS:	8/01/02 00473			
CONTACT:		PHONE:	4.			
SITE INFORMATION						
TOTAL NUMBER OF TANKS:	8					
TANK ID:	I					
DATE INSTALLED:	04-01-65					
STATUS: CAPACITY (GAL):	PERMANENTLY CLOSED 4,000					
PRODUCT STORED:	GASOLINE					
TANK ID:	2					
DATE INSTALLED:	04-01-65 PERMANENTLY CLOSED					
STATUS: CAPACITY (GAL):	4,000					
PRODUCT STORED:	DIESEL					
TANK ID:	3					
DATE INSTALLED:	04-01-72					
STATUS:	PERMANENTLY CLOSED 6,000					
CAPACITY (GAL): PRODUCT STORED:	GASOLINE					
TANK ID:	4					
DATE INSTALLED:	07-01-88					
STATUS:	IN USE					
CAPACITY (GAL): PRODUCT STORED:	6,000 DIESEL					
I HODOCI DICIMBI						
TANK ID:	5					
DATE INSTALLED:	07-01-88					
STATUS:	IN USE					
CAPACITY (GAL): PRODUCT STORED:	6,000 GASOLINE					
HONOCI BIOLOD.	مه د همهند چه چمه دین					
TANK ID:	6					
DATE INSTALLED:	04-25-01					
STATUS:	PERMANENTLY CLOSED					
CAPACITY (GAL): PRODUCT STORED:	1,000 GASOLINE					
roduct Storen:	CONTRICT					
TANK ID:	7					
DATE INSTALLED:	04-25-01					
		- Co	ntinued or	next page -		

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

**JOB:** 71489

REGISTERED UNDERGROUND S	STORAGE TANKS
--------------------------	---------------

SEARCH ID: 17

DIST/DIR:

0.15 NE

MAP ID:

24

NAME:

WICKBAY PROPERTIES

ADDRESS: 65 REYNOLDS ST

NORTH KINGSTOWN RI 02852

REV:

8/01/02 00473

ID1: ID2:

STATUS: PHONE:

CONTACT:

STATUS:

PERMANENTLY CLOSED

CAPACITY (GAL):

PRODUCT STORED:

1,000

GASOLINE

TANK ID:

DATE INSTALLED:

STATUS:

04-25-01 IN USE

CAPACITY (GAL):

1,000

PRODUCT STORED:

HEATING OIL NO. 2

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

**JOB:** 71489

REGISTERED UNDERGROUND STORAGE TANKS						
SEARCH ID:	22	DIST/DIR:	0.15 SW		MAP ID:	28
ADDRESS: 549 TO	L OIL SERVICE, INC WER HILL ROAD I KINGSTOWN RI 02852		REV: ID1: ID2: STATUS: PHONE:	8/01/02 00696		

SITE INFORMATION

CONTACT:

TOTAL NUMBER OF TANKS:

TANK ID:

04-01-61 DATE INSTALLED:

STATUS:

PERMANENTLY CLOSED

25,000 CAPACITY (GAL):

PRODUCT STORED:

HEATING OIL NO 2

TANK ID:

DATE INSTALLED:

STATUS:

04-01-61

PERMANENTLY CLOSED

CAPACITY (GAL):

25,000

PRODUCT STORED:

HEATING OIL NO. 2

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

JOB:

71489

SEARCH	<b>ID:</b> 6	DIST/DIR:	0.17 NE	MAP ID: 8
NAME: ADDRESS:	BAILEY MOTOR SALES INC 425 TEN ROD RD NORTH KINGSTOWN RI 02852		REV: ID1: ID2: STATUS:	12/9/02 RID018512178 SGN
CONTACT:			PHONE:	

#### UNIVERSE TYPE:

SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

#### SIC INFORMATION:

7538 - SERVICES - GENERAL AUTOMOTIVE REPAIR SHOPS

#### ENFORCEMENT INFORMATION:

#### **VIOLATION INFORMATION:**

			- Continued on	next page -
VIOLATION NUMBER: DETERMINED:	0007 15-MAY-93	RESPONSIBLE: DETERMINED BY:	S - STATE S - STATE	
VIOLATION NUMBER: DETERMINED: CITATION: TYPE:	0006 15-MAY-93 262.11 GHW	RESPONSIBLE: DETERMINED BY: RESOLVED:	S - STATE S - STATE 16-JUL-93	
VIOLATION NUMBER: DETERMINED: CITATION: TYPE:	0005 15-MAY-93 265.174 GMC	RESPONSIBLE: DETERMINED BY: RESOLVED:	S - STATE S - STATE 16-JUL-93	
VIOLATION NUMBER: DETERMINED: CITATION: TYPE:	0004 15-MAY-93 262.32 GPT - GENERAT	RESPONSIBLE: DETERMINED BY: RESOLVED: OR PRE-TRANSPORT REQUIR	S - STATE S - STATE 16-JUL-93 EMENTS	
VIOLATION NUMBER: DETERMINED: CITATION: TYPE:	0003 15-MAY-93 265.173 GMC	RESPONSIBLE: DETERMINED BY: RESOLVED:	S - STATE S - STATE 16-JUL-93	
VIOLATION NUMBER: DETERMINED: CITATION: TYPE:	0002 15-MAY-93 265.35 GPP	RESPONSIBLE: DETERMINED BY: RESOLVED:*	S - STATE S - STATE 16-JUL-93	
VIOLATION NUMBER: DETERMINED: CITATION: TYPE:	0001 15-MAY-93 262.34 GMC	RESPONSIBLE: DETERMINED BY: RESOLVED:	S - STATE S - STATE 16-JUL-93	

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

RCRA GENERATOR SITE							
SEARCH ID: 6		DIST/DIR:	0.17 NE	MAP ID:	8		
NAME: BAILEY MOTOR SAI ADDRESS: 425 TEN ROD RD NORTH KINGSTOWN CONTACT:			REV: ID1: ID2: STATUS: PHONE:	12/9/02 RJD018512178 SGN			
CITATION: TYPE:	265(b) 265.16 GPR	RESOLVED	16	-JUL-93			
VIOLATION NUMBER: DETERMINED: CITATION: TYPE-	0008 15-MAY-93 5.09 GSC - GENERA	RESPONSII DETERMIN RESOLVED ATOR SPECIAL CO	ED BY: S - 16	STATE STATE -JUL-93			

TARGET SITE:

PROJECT DATE:

TEN ROD ROAD

10/4/1994 0:00:00

NORTH KINGSTOWN RI 02852

**JOB:** 71489

SEARCH	<b>ID:</b> 39	DIST/DIR:	0.17 NE	MAP ID:
NAME: ADDRESS:	BAILEY S MOTOR SALES, INC. 425 TEN ROD ROAD NORTH KINGSTOWN RI		REV: ID1: ID2: STATUS:	2/24/03 2325-LS I - INACTIVE
CONTACT:			ID2: STATUS: PHONE:	I - INACTIVE

SEARCH ID: 33 DIST/DIR: 0.19 NW	MAP ID: 20
ADDRESS: 30 PHILLIPS STREET NORTH KINGSTON RI S	REV: 2/24/03 D1: 2348-ST D2: CTATUS: SRO - SOIL REMOVAL ONLY PHONE:

STATE SITE				
SEARCH ID: 10	DIST/DIR:	0.20 NE	MAP ID:	12
NAME: SHELL FACILITY # 139047 ADDRESS: 10 TEN ROD ROAD NORTH KINGSTOWN RI  CONTACT:		REV: ID1: ID2: STATUS: PHONE:	2/24/03 SHEF-HWM ACTIVE	
SITE INFORMATION PROJECT DATE: 02/19/02				

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

JOB:

71489

SEARCH ID: 4

DIST/DIR:

0.20 NE

MAP ID:

6

NAME:

X RAY ASSOCIATES INC

ADDRESS: 320 PHILLIP ST

NORTH KINGSTOWN RI 02852

REV:

12/9/02

ID1:

RID987469939

ID2:

SGN

STATUS: PHONE:

CONTACT:

SITE INFORMATION

UNIVERSE TYPE:

SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

SIC INFORMATION:

8011 - SERVICES - OFFICES AND CLINICS OF MEDICAL DOCTORS

ENFORCEMENT INFORMATION:

**VIOLATION INFORMATION:** 

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

JOB:

71489

RCRA GENERATOR SITE

SEARCH ID: 2

DIST/DIR:

0.23 NW

MAP ID:

4

NAME:

SHEHAN JARED D DMD INC

ADDRESS: 145 PHILLIPS ST

CONTACT: HOLLY STAHL-CYR

NORTH KINGSTOWN RI 02852

REV: ID1: 3/11/02

RID987492865

ID2:

STATUS:

SGN

PHONE:

4012944315

SITE INFORMATION

CONTACT INFORMATION:

HOLLY STAHL-CYR

OFFICE MGR 145 PHILLIPS ST

NORTH KINGSTOWN RI 02852

PHONE:

4012944315

**UNIVERSE NAME:** 

SGN: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

SIC INFORMATION:

ENFORCEMENT INFORMATION:

**VIOLATION INFORMATION:** 

an marata masa 20

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

JOB:

71489

LEAKING UNDERGROUND	STORAGE	<b>TANKS</b>
---------------------	---------	--------------

SEARCH ID: 32

DIST/DIR:

0.28 NW

MAP ID:

18

NAME:

**BROOKS PHARMACY** 

ADDRESS: 63 BROWN STREET

NORTH KINGSTOWN RI

REV: ID1: ID2:

2/24/03

2346-ST

STATUS: PHONE:

SRO - SOIL REMOVAL ONLY

CONTACT:

PROJECT DATE:

4/4/2002

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 31

DIST/DIR:

0.32 SE

MAP ID:

17

NAME:

CONTACT:

BEECHWOOD HOUSE

ADDRESS: 10 BEACH STREET

NORTH KINGSTOWN RI

REV: D1:

2/24/03

2315-LS

ID2: STATUS:

SRO - SOIL REMOVAL ONLY

PHONE:

PROJECT DATE:

8/21/1992 0:00:00

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 38

DIST/DIR:

0.35 NE

MAP ID:

2

NAME:

CONTACT:

WICKFORD SHIPYARD

ADDRESS: 125 STEAMBOAT AVENUE

NORTH KINGSTOWN RI

2/24/03

REV: ID1:

2337-LS

ID2: STATUS:

A - ACTIVE

PHONE:

PROJECT DATE:

4/8/1997 0:00:00

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

**JOB:** 7

71489

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 34

DIST/DIR:

0.39 NW

MAP ID:

3

NAME:

MOBIL STATION -OLIVERS

ADDRESS: 43 WEST MAIN ST

NORTH KINGSTOWN RI

REV: ID1: ID2: 2/24/03 2334-LS

ID2: STATUS:

SRO - SOIL REMOVAL ONLY

PHONE:

CONTACT:
PROJECT DATE:

9/24/1996 0:00:00

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 35

DIST/DIR:

0.42 NW

MAP ID:

22

NAME:

NORTH KINGSTOWN FREE LIBRARY

ADDRESS:

100 BOONE STREET

NORTH KINGSTOWN RI

REV: ID1: 2/24/03

2312-LS

ID2: STATUS:

SRO - SOIL REMOVAL ONLY

CONTACT:

PHONE:

PROJECT DATE:

11/21/1991 0:00:00

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 30

DIST/DIR:

0.45 NE

MAP ID:

13

NAME: ADDRESS:

CONTACT:

22 LAWTON STREET

22 LAWTON STREET NORTH KINGSTOWN RI

.\_

2/24/03 2321-LS

ID1: ID2: STATUS:

REV:

I - INACTIVE

PHONE:

PROJECT DATE:

1/10/1994 0:00:00

G: D : 17 D : 20

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

JOB:

71489

STATE SPILLS SITE

SEARCH ID: 42

DIST/DIR:

NON GC

MAP ID:

NAME:

CRN BOSTON NECK RD & EA

ADDRESS: CRN BOSTON NECK RD & EA

NORTH KINGSTOWN RI

REV: ID1:

4/10/00 98-407

ID2:

STATUS:

CONTACT: JLEO

PHONE:

SPILL DATE:

07-20-98 J LEO

SPILL NOTIFIER:

STAFF:

MATERIAL SPILLED:

URETHANE RESIN

SPILL AMOUNT REPORTED: INCIDENT:

SOURCE OF SPILL:

A BAG

LUST?:

PCB LEVEL:

SOIL CONTAMINATED?:

STATE SPILLS SITE

SEARCH ID: 43

DIST/DIR:

NON GC

MAP ID:

NAME:

TEN ROD ROAD

ADDRESS: TEN ROD ROAD

NORTH KINGSTOWN RI

REV:

4/10/00

**D1:** ID2:

00-025

STATUS: PHONE:

CONTACT:

01-18-00

SPILL NOTIFIER:

SPILL DATE: STAFF:

MATERIAL SPILLED:

SPILL AMOUNT REPORTED: INCIDENT:

POSS CONTAM

SOURCE OF SPILL:

LUST?:

PCB LEVEL:

SOIL CONTAMINATED?:

TARGET SITE:

TEN ROD ROAD NORTH KINGSTOWN RI 02852

JOB:

71489

DIST/DIR: NON GC	MAP ID:
REV ID1: ID2: STAT	95-435 FUS:
rao	NE:
SPILL NOTIFIER:	NORTH KINGSTOWN FIRE DEPT
SOURCE OF SPILL:	TRUCK
SOIL CONTAMINAT	ED?:
	REV ID1: ID2: STAT PHO SPILL NOTIFIER: SOURCE OF SPILL:

## Environmental FirstSearch Street Name Report for Streets within 1 Mile(s) of Target Property

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

**JOB:** 71489

Street Name	Dist/Dir	Street Name	Dist/Dir
Advent St	0.10 NE	Inez Rd	0.77 SW
Amy St	0.46 SE	Intrepid Rd	0.82 NW
Angel Ave	0.01 NE	Iron Horse Ter	0 96 NE
Annaquatucket Rd	0.17 SE	Island St	0.82 SE
Armington Ave	0.53 NE	Jamaica Way	0.78 SW
Arnold Ave	0 02 NE	Jenkins Ct	0.06 SE
Ashton Ave	0.37 SE	Juniper Dr	0.81 NE
Aspen Ct	0.86 SW	Kent St	0.27 NE
Atherton Ave	0.03 SE	Kettle Ct	0.60 SW
Audubon Rd	0.48 SW	King St	0.15 NE
Autumn Dr	0.74 SW	Lafayette Rd	0.00
Baker Way	0.34 SE	Lang Dr	0.80 NW
Barolay Dr	0.19 SE	Lantern Ln	0.33 SE
Barrett Dr	0.66 NW	Lantern Ln EAST	0.50 SE
Bay St	0.30 NE	Laurel Ridge Ln	0.63 SW
Beach St	0.04 SE	Lawton Ave	0.35 NE
Beacon Dr	0.76 SW	Leatherleaf Trl	0.77 SW
Beatrice Dr	0.28 SE	Lenox Ct	0.62 NW
Bellewood Ct	0.61 SW	Lexington Ave	0.38 NE
Boone St	0.22 NW	Lindley Ave	0.02 NW
Boston Neck Rd	0.00	Loop Dr	0.02 NW
	0.96 SW	Lydia Dr	0.44 NW
Boyer St	0.71 NW	Madison Ave	0.39 NE
Brenton Ct Bridal Ct	0.74 NW 0.54 SW	Main St	0.35 NW
	0.81 NW	Marion St	0.44 NE
Bromley Ct	0.11 NW	Matteson St	0.13 NW
Brown St	0.19 NW 0.48 NW	Mayflower Ct	0.78 NW
Browning Dr	0.48 NW 0.64 NE	Mill Pond Rd	0.52 SW
Bruce Ter	0.56 NW	Morgan Ct	0.50 SW
Byron Ct	0.36 N W 0.66 SW	Newport Ave	0.52 NE
Cambridge Ct	0.13 SE	Newton Ave	0.41 NW
Cedar Glen Rd	0.15 SE 0.15 SE	Oak Hill Rd	0.52 SW
Central St	0.13 SE 0.32 SW	Oak Hill Ru Oakland Ave	0.10 NW
Charlene Ct		Ocean Ave	0.57 NE
Chatworth Rd	0.08 SW	Old Baptist Rd	0.41 NW
Chaucer Dr	0.54 NW 0.36 NW	Old Post Rd	0.98 NW
Church Ln		Pebble Rd	0.93 NE
Clover Ct	0.17 SW		0.19 NW
Col Rodman Hwy	0.26 SW	Phillips St	0.96 SW
Cold Spring Ln	0.23 SE	Pineland St Pinetree Cir	0.65 SE
Cole Dr	0.61 NW		0.42 NE
Collation Cir	0.14 NE	Pleasant St Pond St	0.42 NW
Collins Ct	0.70 SW		0.41 NE
Concord Ave	0.40 NE	Ponte St	0.41 NB 0.47 NE
Corey Ave	0.02 NE	Poplar Ave	0.47 NE 0.72 NW
Cranston Cir	0.32 NW	Post Rd	
Cydot Dr	0.29 SE	Preston Dr	0.17 NE
Daniel Dr	0.44 SW	Prospect Ave	0.04 SE
Dayton Ct	0.77 NW	Quaker Ln	0.41 NW

## Environmental FirstSearch Street Name Report for Streets within 1 Mile(s) of Target Property

TARGET SITE:

TEN ROD ROAD

NORTH KINGSTOWN RI 02852

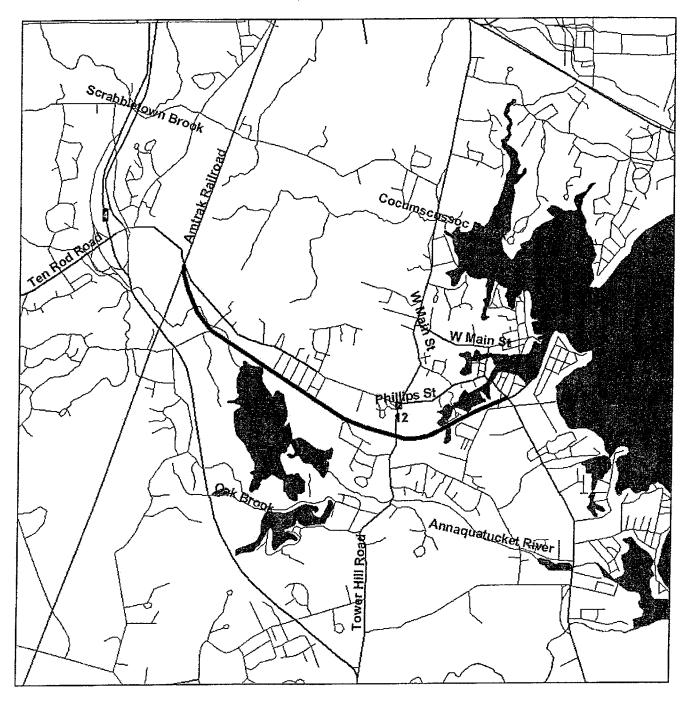
**JOB:** 71489

Street Name	Dist/Dir	Street Name	Dist/Dir
Dean Ave	0.08 NE	Queen St	0.15 NE
Dickson St	0.23 NE	Ramblewood Dr	0.41 SE
Dillon Ave	0.02 NE	Reynolds St	0.03 NW
Dodge Ave	0.02 ND	Ridgefield Ct	0.84 NW
Duck Cove Ln	0.67 SE	Roger Williams Dr	0.93 NW
Duck Cove Rd	0.73 SE	Rollingwood Dr	0.84 SW
Earle Dr	0.86 SE	Rome St	0.09 SE
Eastwick Dr	1.00 NW	Russell Dr	0.91 SE
Eden Ct	0.64 SW	Sassafras Dr	0.77 NE
Edgar Nock Rd	0.45 SE	Scrabbletown Rd	0.42 NW
Elam St	0.20 NW	Shelley Dr	0.65 NW
Eldred Ave	0.53 NE	Sherman St	0.43 NW
Eldred Rd	0.56 NE	Shore Dr	0.67 SW
Elgin Ave	0.32 NE	Spencer Dr	0.14 NE
Elizabeth Ct	0.57 SE	Spink St	0.22 NW
Elm Dr	0.50 SE	Standpipe Ln	0.72 NW
Elna St	0.27 NE	State Highway 4	0.36 SW
Enfield St	0.61 NW	Steamboat Ave	0.19 NE
Esker Ln	0.46 SW	Stone Gate Dr	0.37 NE
Esmond Ave	0.60 NW	Stone Hill Dr	0.84 SW
Fairway Dr	0.50 SE	Stony Ln	0.93 NE
Feather Bed Ln	0 95 SE	Stuart Dr	0.38 NW
Flagg Ln	0.67 SW	Sweet Ln	0.46 SW
Fountain St	0.30 NE	Tamarack Cir	0.98 SW
Fowler St	0.39 NE	Ten Rod Rd	00.0
Franklin St	0.26 NW	Thelma Irene Dr	0.32 SW
Friend St	0.48 NE	Thomas St	0.46 NW
Gardiner Ave	0.02 NE	Tower Hill Rd	0.00
Georgia Ave	0.16 SW	Updike Ave	000
Glendale Cir	0.95 SE	Valley St	0.13 SE
Gold St	0.31 NW	Veil Ct	0.42 SE
Grant Dr	0.37 NW	Viking Ct	0.81 NW
Greenway Dr	0.99 SE	Virginia Ave	0.21 SW
Gregory Ave	0.05 NW	W Main St	0.35 NW
Guzeika Rd	0.42 SE	Waite Ct	0.36 NW
Hatchery Rd	0.31 SW	Wall St	0.33 NE
Hatchery Rd Byp	0.42 SW	Wamponaug Cir	0.38 SE
Hatfield St	0.23 NE	Warburton Ave	0.02 NE
Haverhill Ave	0.13 SW	Washington St	0.31 NW
Hawthorne Dr	0.83 SW	WEST Main St	0.35 NW
Hendrick Ave	0.11 NE	Westridge Ct	0.75 NW
High St	0.26 SW	Wickham Rd	0.90 NW
Highbush Ter	0.58 SW	William St	0.87 SE
Himes St	0.16 NE	Woodward Rd	0.97 SE
Hopedale Dr	0.97 NW	Worden Ave	0.16 NE
Howard Rd	0.06 NE	Wright Ln	0.19 NE
Howard s Right of Wa	0.53 SE		
Indian St	0.24 NE		



1 Mile Radius from Line ASTM Map: NPL, RCRACOR, STATE Sites



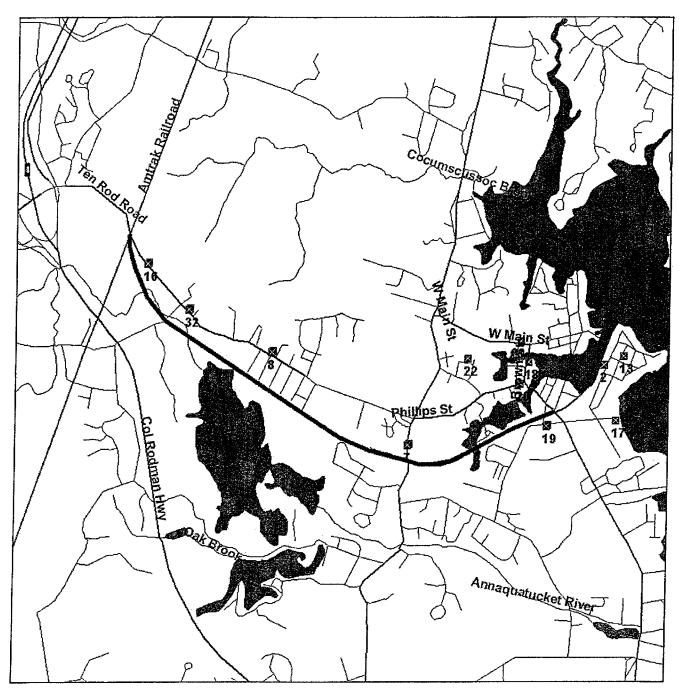


Source: 1999 U.S. Census TIGER Files			
Linear Search Line			<b>-</b>
Identified Site, Multiple Sites, Receptor	. 🔀	X	
NPL, Solid Waste Landfill (SWL) or Hazardous Waste			888
Railroads			
Black Rings Represent 1/4 Mile Radii; Red Ring Represent	ents 500 1	ft. Radius	



.5 Mile Radius from Line ASTM Map: CERCLIS, RCRATSD, LUST, SWL



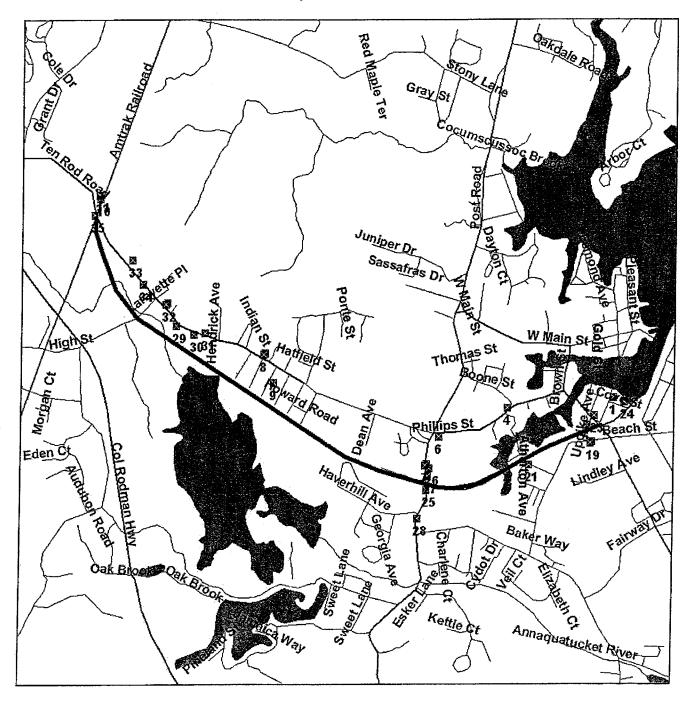


Source: 1999 U.S. Census TIGER Files	
Linear Search Line	
Identified Site, Multiple Sites, Receptor	
NPL, Solid Waste Landfill (SWL) or Hazardous Waste	$\boxtimes$
Railroads	
Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius	



.25 Mile Radius from Line ASTM Map: RCRAGEN, ERNS, UST





S	ource: 1999 U.S. Census TIGER Files	
	Linear Search Line	
	Identified Site, Multiple Sites, Receptor	
	NPL, Solid Waste Landfill (SWL) or Hazardous Waste	$\boxtimes$
	Railroads	
	Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius	



.15 Mile Radius from Line Non-ASTM Map: Spills 90





Source: 1999 U.S. Census TIGER Files	
Linear Search Line	<del>-</del> -
Identified Site, Multiple Sites, Receptor	
NPL, Solid Waste Landfill (SWL) or Hazardous Waste	🕮
National Historic Sites and Landmark Sites	
Railroads	
Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Ra	dius



imagination innovation energy Creating results for our clients and benefits for our communities

Vanasse Hangen Brustlin, Inc.

August 4, 2003

Ref: 71489

Mr. Richard Enser Natural Resource Specialist RIDEM Division of Planning and Development 235 Promenade Street Providence, RI 02908

Re:

South County Bicycle Facility Site Assessment Project

North Kingstown and Narragansett, Rhode Island

Dear Mr. Enser:

Vanasse Hangen Brustlin, Inc (VHB) has been retained by the Rhode Island Department of Transportation (RIDOT) to prepare environmental documentation for three proposed bicycle path facilities within North Kingstown and Narragansett, Rhode Island.

The proposed Wickford Junction Bikepath spur is approximately 2.5 miles long and follows the route of the former Newport and Wickford Rail Road and Steamboat Company right-of-way (ROW) in North Kingstown, Rhode Island (Refer to Figure 1). The proposed bikepath follows an abandoned railroad (RR) ROW from Wickford Junction at Route 102, east to the Town Hall near Wickford Village. A review of the available Natural Heritage Program mapping of the area surrounding the project alignment with RIGIS rare species coverage indicates that Bellville Pond and its associated wetland resources located south of the RR ROW are within a polygon of an estimated habitat and range of rare species or a noteworthy natural communities.

The proposed Narrow River Bikepath is approximately 1.8 miles along the Subtransmission Line No. 3302 right-of-way (ROW) in North Kingstown, Rhode Island (Refer to Figure 2). The proposed bikepath follows an electric power transmission ROW from Mettatuxet Road south to the Narrow River, west of the Sprague Bridge. A review of the available Natural Heritage Program mapping of the area surrounding the project alignment with RIGIS rare species coverage indicates that the Pettaquamscutt River and its associated wetland resources located west of large segments of the ROW are within a polygon of an estimated habitat and range of rare species or a noteworthy natural community. The southern most 800 feet of the proposed alignment is located within the polygon of an estimated habitat and range of rare species or a noteworthy natural community.

The proposed Davisville Bike Path spur is approximately 2.75 miles along the road network adjacent to the Naval Construction Battalion Center perimeter fence in North Kingstown, Rhode Island (Refer to Figure 3). The bikepath is proposed to begin at the intersection of Newcomb Road and Post Road, and continue east to Calf Pasture Point Park. A review of the available Natural Heritage Program

Richard Enser Project No.: 71489 August 4, 2003 Page 2

mapping of the area surrounding the project alignment with RIGIS rare species coverage indicates no estimated habitat and range of rare species or a noteworthy natural communities.

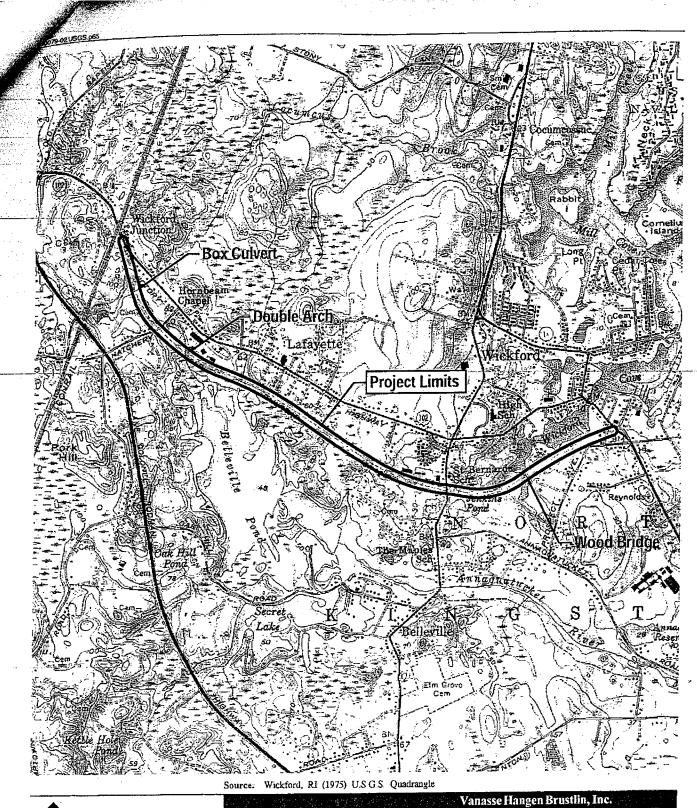
We request that you provide information on the presence of rare, threatened or endangered species, or exemplary natural communities in the vicinity of the potential project area for the purpose of project planning. Please contact me at (401)-272-8100 if you require further information concerning this project.

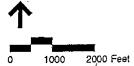
Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

Susan Moberg Project Manager

**Enclosures** 

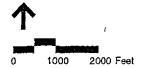




Project Location Map Figure 1
Wickford Junction Spur
South County Bicycle Facility Site Assessment Project
North Kingstown, Rhode Island

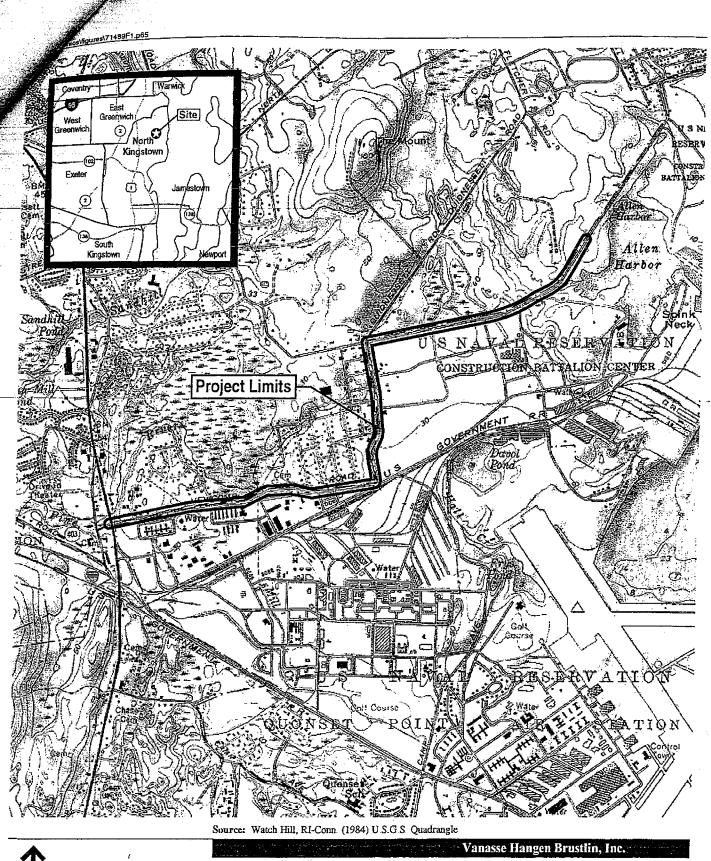


Source. Kingston, RI (1975) U.S.G.S. Quadrangle



Project Location Map Figure 2
Narrow River Bikepath
South County Bicycle Facility Site Assessment Project
Narragansett, Rhode Island

Vanasse Hangen Brustlin, Inc.





2000 Feet

1000

Site Location Map Figure 3
Davisville Bicycle Path
South County Bicycle Facility Site Assessment Project
North Kingstown, Rhode Island

## Transportation Land Development Environmental Services



imagination innovation energy Creating results for our clients and benefits for our communities

Vanasse Hangen Brustlin, Inc.

August 4, 2003

Ref: 71489

Mr. Michael Amaral Senior Endangered Species Biologist U.S. Fish & Wildlife Service New England Field Office 70 Commercial Street Suite 300 Concord, NH 03301-5087

Re:

South County Bicycle Facility Site Assessment Project North Kingstown and Narragansett, Rhode Island

Dear Mr. Amaral:

Vanasse Hangen Brustlin, Inc (VHB) has been retained by the Rhode Island Department of Transportation (RIDOT) to prepare environmental documentation for three proposed bicycle path facilities within North Kingstown and Narragansett, Rhode Island.

The proposed Wickford Junction Bikepath spur is approximately 2.5 miles long and follows the route of the former Newport and Wickford Rail Road and Steamboat Company right-of-way (ROW) in North Kingstown, Rhode Island (Refer to Figure 1). The proposed bikepath follows an abandoned railroad (RR) ROW from Wickford Junction at Route 102, east to the Town Hall near Wickford Village.

The proposed Narrow River Bikepath is approximately 1.8 miles along the Subtransmission Line No. 3302 right-of-way (ROW) in North Kingstown, Rhode Island (Refer to Figure 2). The proposed bikepath follows an electric power transmission ROW from Mettatuxet Road south to the Narrow River, west of the Sprague Bridge.

The proposed Davisville Bike Path spur is approximately 2.75 miles along the road network adjacent to the Naval Construction Battalion Center perimeter fence in North Kingstown, Rhode Island (Refer to Figure 3). The bikepath is proposed to begin at the intersection of Newcomb Road and Post Road, and continue east to Calf Pasture Point Park.

Michael Amaral Project No.: 71489 August 4, 2003 Page 2

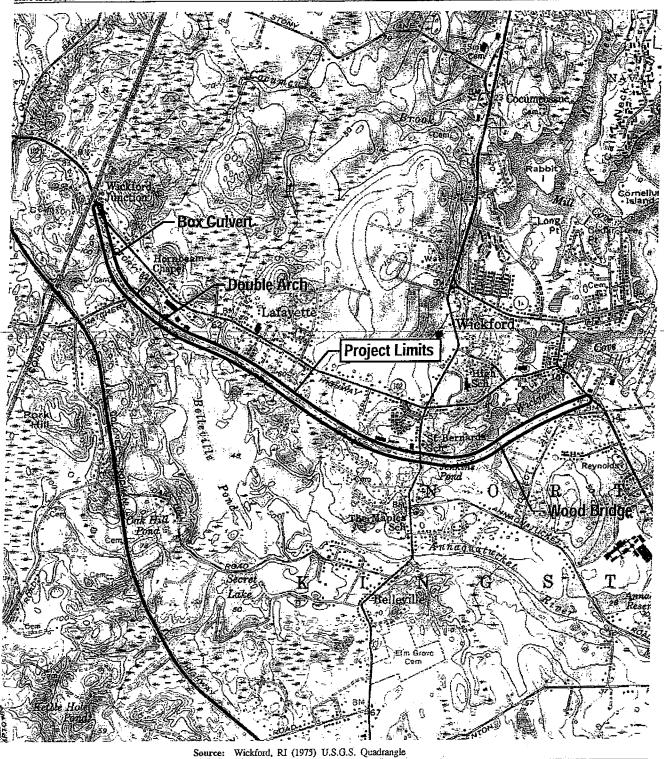
VHB requests information from the U.S. Fish & Wildlife Service regarding the presence of any federallisted, threatened or endangered species, or critical habitats in the vicinity of the potential project areas for the purpose of project planning. Please contact me at (401)-272-8100 if you require further information concerning this project.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

Susan-Moberg-Project Manager

**Enclosures** 



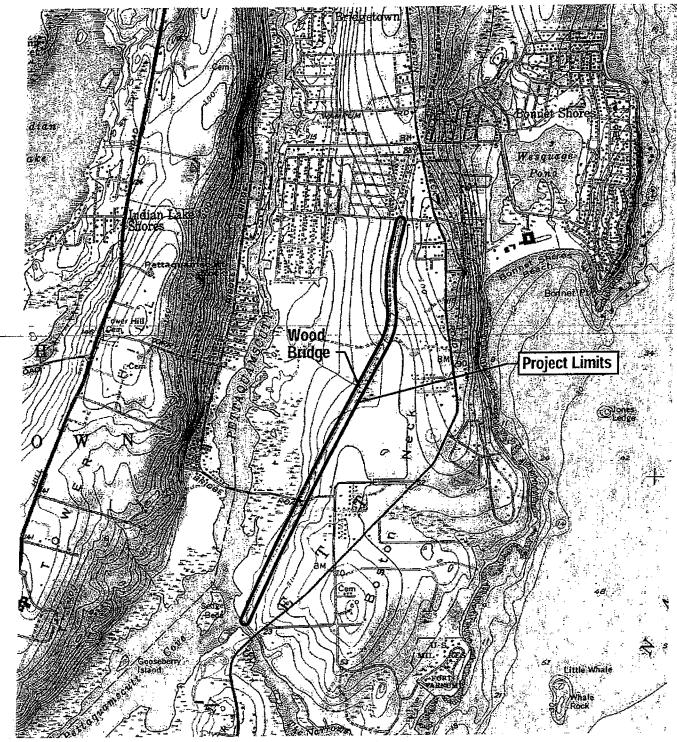
Source: Wickford, RI (1973) U.S.U.S. Quadrang



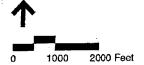
: Location Map Figure 1

Vanasse Hangen Brustlin, Inc.

Project Location Map Figure 1
Wickford Junction Spur
South County Bicycle Facility Site Assessment Project
North Kingstown, Rhode Island

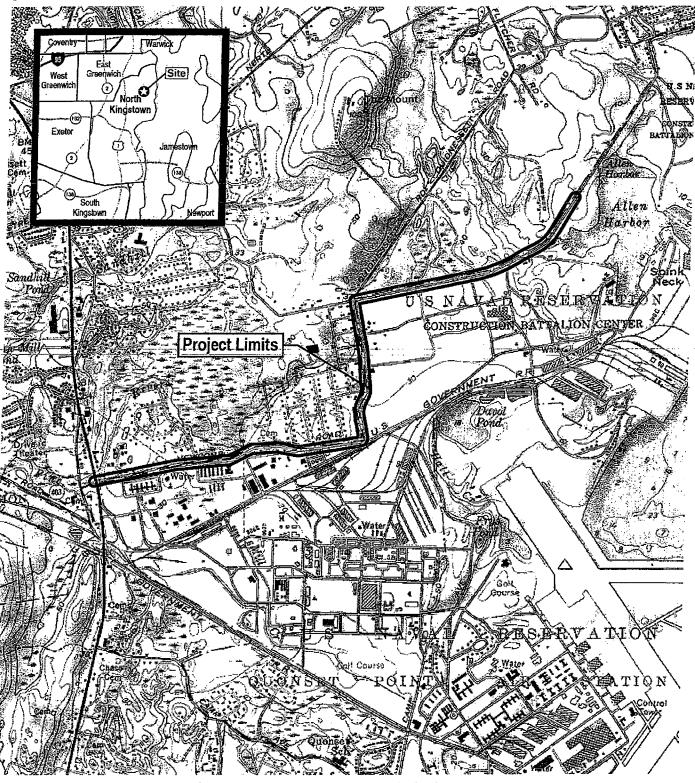


Source: Kingston, RI (1975) U.S.G.S. Quadrangle



Project Location Map Figure 2
Narrow River Bikepath
South County Bicycle Facility Site Assessment Project
Narragansett, Rhode Island

Vanasse Hangen Brustlin, Inc.



Source: Watch Hill, RI-Conn. (1984) U.S.G.S. Quadrangle



Site Location Map Figure 3
Davisville Bicycle Path
South County Bicycle Facility Site Assessment Project
North Kingstown, Rhode Island

Vanasse Hangen Brustlin, Inc.



#### United States Department of the Interior



#### FISH AND WILDLIFE SERVICE New England Field Office 70 Commercial Street, Suite 300 Concord, New Hampshire 03301-5087

September 5, 2003

Reference

Project

Location

Bicycle path facilities

North Kingstown, Narragansett, RI

Susan Moberg Vanasse Hangen Brustlin, Inc 530 Broadway Providence, RI 02909-1820

Dear Ms. Moberg:

This responds to your recent correspondence requesting information on the presence of federally-listed and/or proposed endangered or threatened species in relation to the proposed activity(ies) referenced above

Based on information currently available to us, no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under Section 7 of the Endangered Species Act is not required.

This concludes our review of listed species and critical habitat in the project location(s) and environs referenced above. No further Endangered Species Act coordination of this type is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available

Thank you for your coordination. Please contact us at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Michael J. Amaral

michael J. amaral

Endangered Species Specialist

New England Field Office

RECEIVED

HEB 1 0 2004

WANASSE HANGEN BRUSTLIN, INC.

Susan Moberg Vanesse Hangen Brustlin, Inc. 530 Broadway Providence, RI 02909-1820

February 9, 2004

RE:

URI/South County Bike Path Connector

Kingston, RI

Dear Ms. Moberg:

Thank you for contacting the RI Natural Heritage Program for information regarding the presence of rare/endangered species, or exemplary natural community types within the vicinity of the above referenced project, as outlined in your letter dated September 4, 2003.

Review of the Program database indicates there are no rare/endangered species or exemplary natural communities within the vicinity of this project area. As our inventory is ongoing, more information may become available concerning these sites in the future.

If I can provide any additional information regarding this review, please contact me at 222-2776, extension 4308.

Sincerely,

Richard W. Enser, Coordinator RI Natural Heritage Program

300/ mast announce (ib-

Tax Assessor Maps & Property Ownership

# TAX ASSESSOR MAPS & PROPERTY OWNERSHIP TABLES

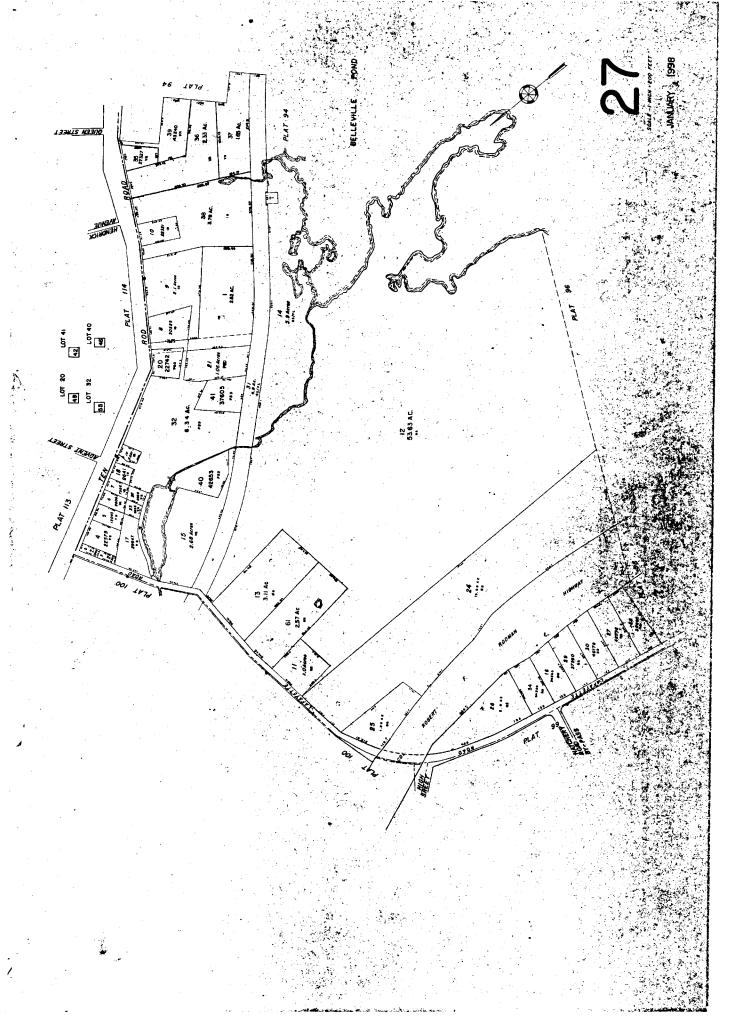
Table of Property Owners and Abutters Along Abandoned RR Right-of-Way

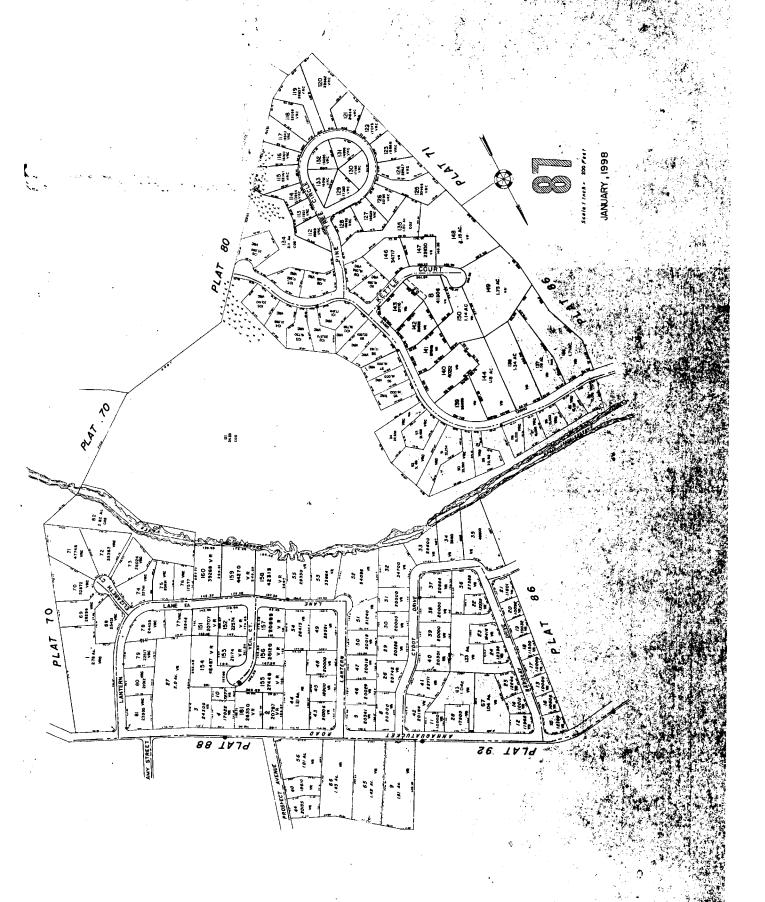
Plat         Lot #         O           100         -         Ten           100         29         Judith           100         28         Matth           100         27         Mic           100         24         Ron           100         23         Big           100         22         Janic           100         32         Janic           100         32         Janic           27         15         Apparent: Bal           27         32         Apparent: Bal           27         41         Apparent: Bal           27         21         Ask           27         1         Tax Rev Tox           27         1         Tax Rev Tox		Plat	# +0	Owner(e)	te la		
29			֓֞֝֝֝֝ ֭֓֞֝֝֞֝֞֝֞֝	CWIICIO		#	Owner(s)
30 28 27 27 28 22 23 23 23 41 41 41 41 41 41 41 41 41 41 41 41 41					10	14	Town of North Kingstourn
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22 22 22 23 22 23 24 15 17 17 17 17 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19							
27 26 27 23 32 32 41 15 17 17 18							
25 22 22 23 25 15 15 15 17 17 17 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18		9	ı	Consolidated Rail Corp.			
25 23 22 22 22 23 24 15 15 17 17 18 24 18 25 18 27 18 27 18 27 18 18 18 18 18 18 18 18 18 18 18 18 18							
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32 15 15 17 17 17 18	Janice K. Mcaleer	100	35	Consolidated Rail Corp.			
15 32 41 1 1 1	Joyce C. Hendrick	٤	ç		100	14	Town of North Kingstown
21 12 1 12 2 1 1 2 1 1 2 1 1 2 1 1 1 1	Michael Alger	3	3	I OWN OF NORTH KINGSTOWN	100	13	David D. Johnson/ Flvie Johnson
21 24 4 32 3			ľ	Lafayette Road		2	
32 - 21 4 32	Frank O. Moon				27	2	Town of North Kingstown
21 21 41	Apparent: Bakeford Properties LLC				27	14	Town of North Kingstown
7 - 21	Apparent: Bakeford Properties LLC					]	Cemetary
1 38	Ask Properties	27	31	Town of North Kingstown	76	83	Town of North Kingstown
38	- Town of North Kingstown			,	;	3	
3	Chemical Research Labs of America	-					
37	Scot Lemieux						
94 - Gard	Gardiner Street				76	23	Town of North Kingstown
94 70 Town of I	Town of North Kingstown				94	8	Town of North Kingston
94 - Arn	Arnold Avenue					3	
69	Joanna Carol Petrucci		7				
89	Joanna Carol Petrucci	<del></del>	<u>₹</u>	lown of North Kingstown			
94 - Warbı	Warburton Avenue						
29	Craig W. Pierce						
94 66 Crai	Craig W. Pierce						
	Dillon Avenue				94	8	Town of North Kingstown
94 65 Ger	Gerald T. Ward	94	103	Gerald T. Ward		3	
94 64 Ger	Gerald T. Ward						
-	Corey Avenue				94	88	Town of North Kingstown
63	Patrick C. Parsons	2	5				
94 62 Danny A.	ny A. Beliveau	<del>1</del>		Fairick C. Parsons			
94 - Ang	Angel Avenue						

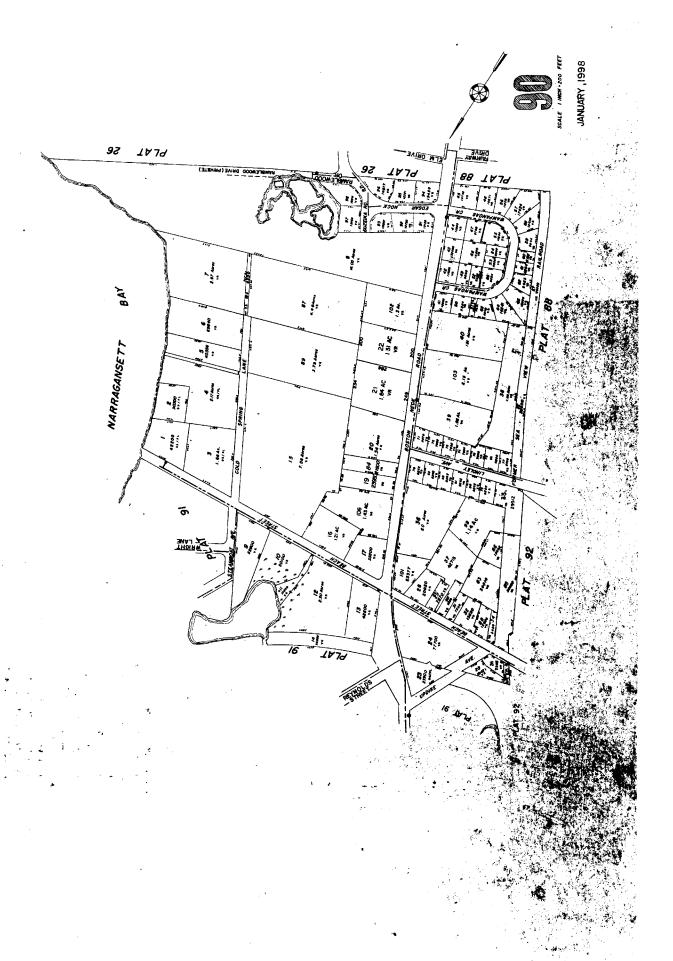
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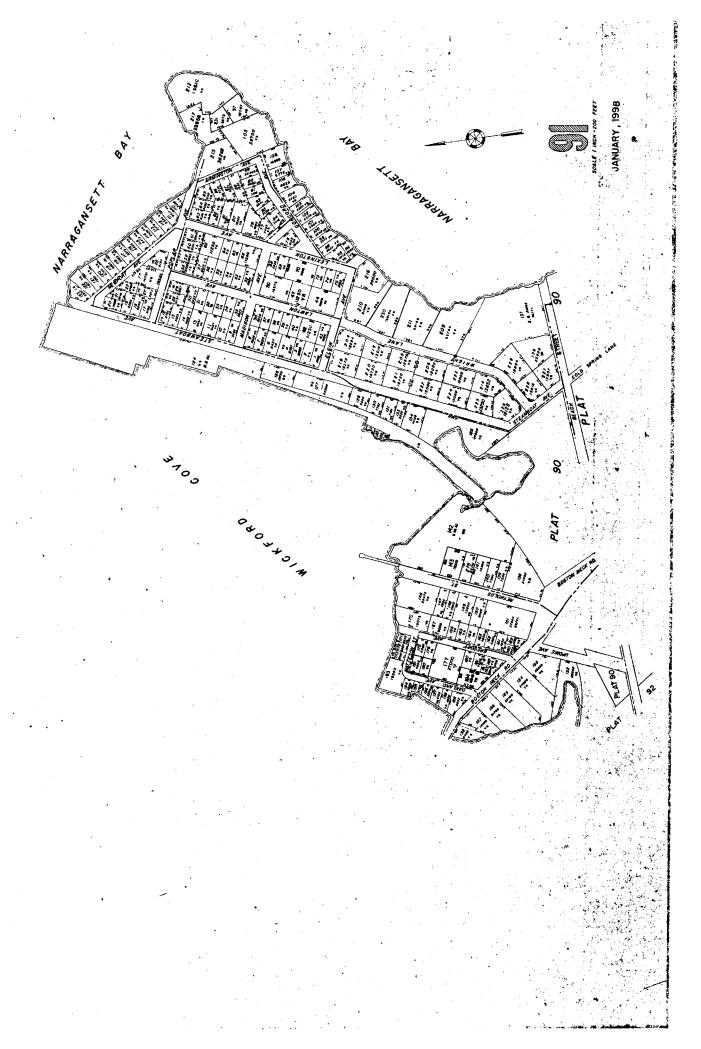
	\buttin	Abutting Parcels to North of Bike Path		Pai	Parcels Along Bike Path	Abu	Itting I	Abutting Parcels to South of Bike Path
Plat	Lot #	Owner(s)	Plat	Lot #	Owner(s)	Plat	Lot #	Owner(s)
94	100	George H. Ward	94	105	Town of North Kingstown	Φ0	£	Town of North Kingstown
93	5	Raymond V. Barbery			6	8	3	Town of North Kingstown
93	9	Walter D. Kettelle Jr.				93	2	Walter D. Kettelle
93	123	Heather L. Hallam-Hinxman	93	181	Heather L. Hallam-Hinxman	93	က	Heather L. Hallam-Hinxman
83	185	Franklin D. Johnson				93	165	Fleet National Bank / J Barnett TR
Ö	ļ					93	166	Raymond E. England
S	120	Jean A. Ingram				93	167	Clinton D. Ralston
93	184	Lisa A Choquette				93	168	Nancy W. Huang
93	21	George T. O'neil	93	188	Vernon J. Sampson	93	169	William R. Reynolds
93	22	George T. O'neil				93	111	Ronald W. Stevens
93	28	State of Rhode Island						
93	28	State of Rhode Island	66	172	State of Rhode Island	93	111	Ronald W. Stevens
				Tower Hill	r Hill Road (Route 1)			
92	219	Wickford Lumber Co.	98	33	Tavarozzi Properties LLC	86	104	Garv L. Petersen
95	219	Wickford Lumber Co.	30	707			,	
92	222	Richard L. Lapan	8	<u> </u>	Gary L. Petersen			
92	64	Wickford Lumber Co.	95	219	Wickford Lumber Co.	98	104	Gary L. Petersen
92	09	Karen Lavery Plympton				86	104	
95	17	William J. Alarie				95	253	From Lot 180: James R. Bridgs
95	18	William J. Alarie				95	195	Karen Lavery Plympton
95	19	William J. Alarie				95	20	Jeffrey D. Jaques
95	20	William J. Alarie				95	69	Richard L. Lapan
92	21	Jacquelynne J. Alarie	9	222	Biobon	95		Atherton Ave./Lindley Ave.
95	23	Michael S. Noonan	7	777	יוטימיט ב במשמו	92	221	Raymond Ortelt
95	24	Michael S. Noonan				95	199	Jeremiah Fraher
95	56	Michael S. Noonan						
92	-	Loop Drive						
95	-	Helen M. Wright						
92	194	John H. Lee						
92	194	John H. Lee	92	215	Helgi L. Lunt Trustee	92	198	Helgi L. Hunt
92	,	Wickford Cove	92	194	John H. Lee	92	197	Richard Morrissette
92	506	Constance Cousins				06	25	Everett J. Hall
91	152	Richard V. Demaio	92	217	Constance Cousins	06	56	Charles E. Elliss III
						90	105	Constance Cousins
					Updike Avenue			

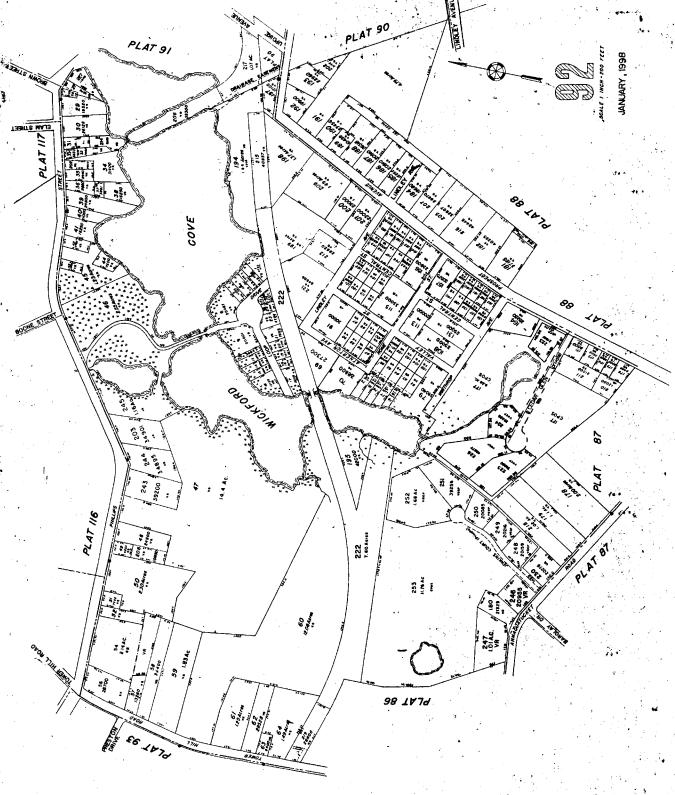
Table of Property Owners and Abutters Along Loop Drive Route

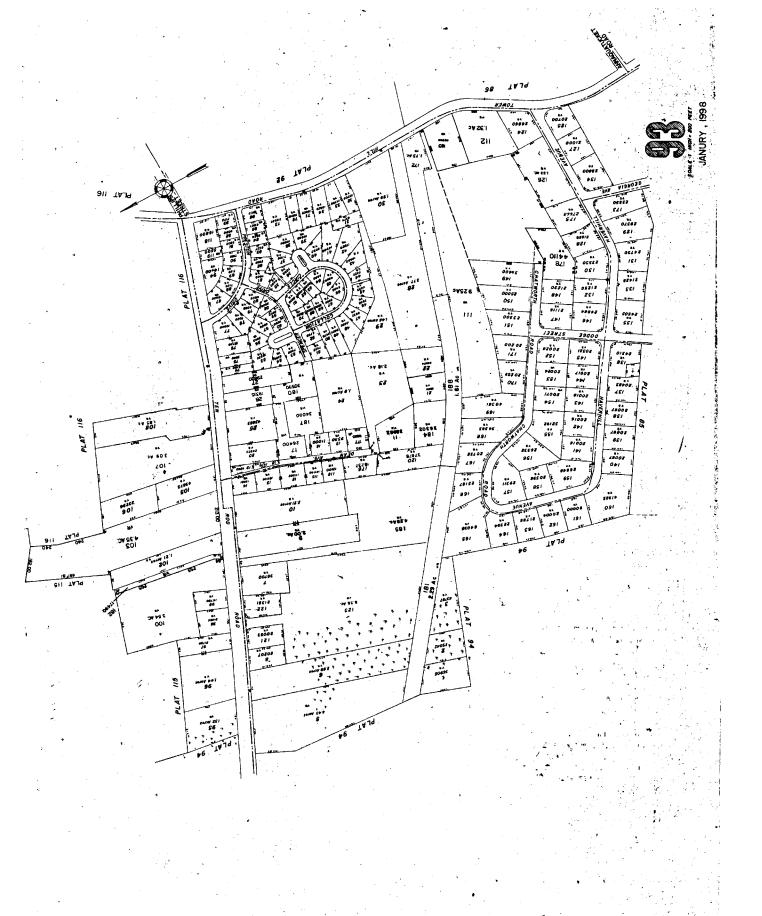


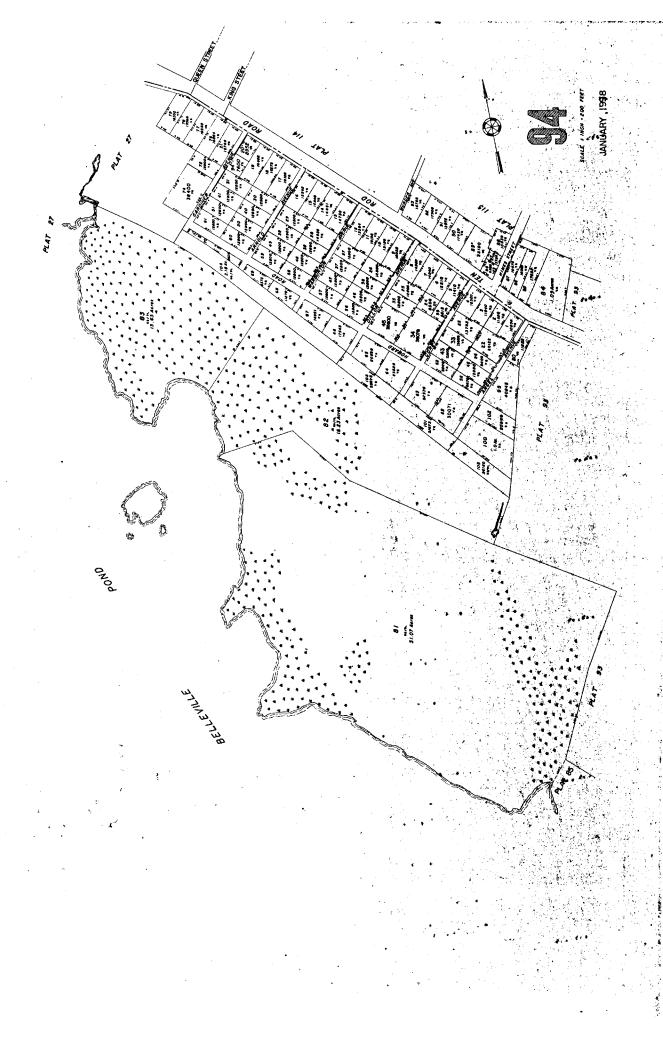


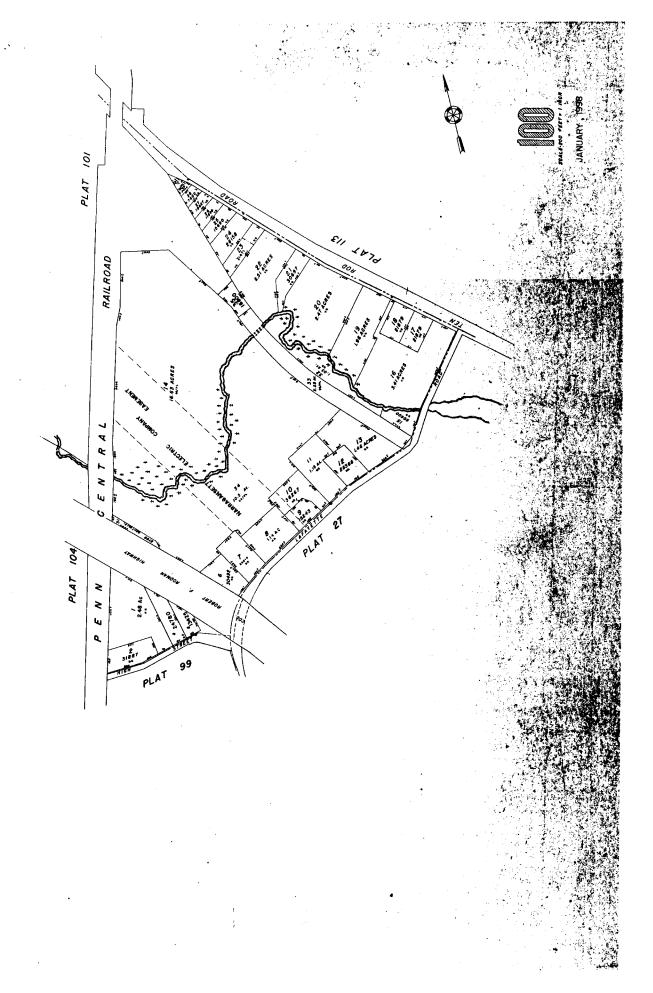


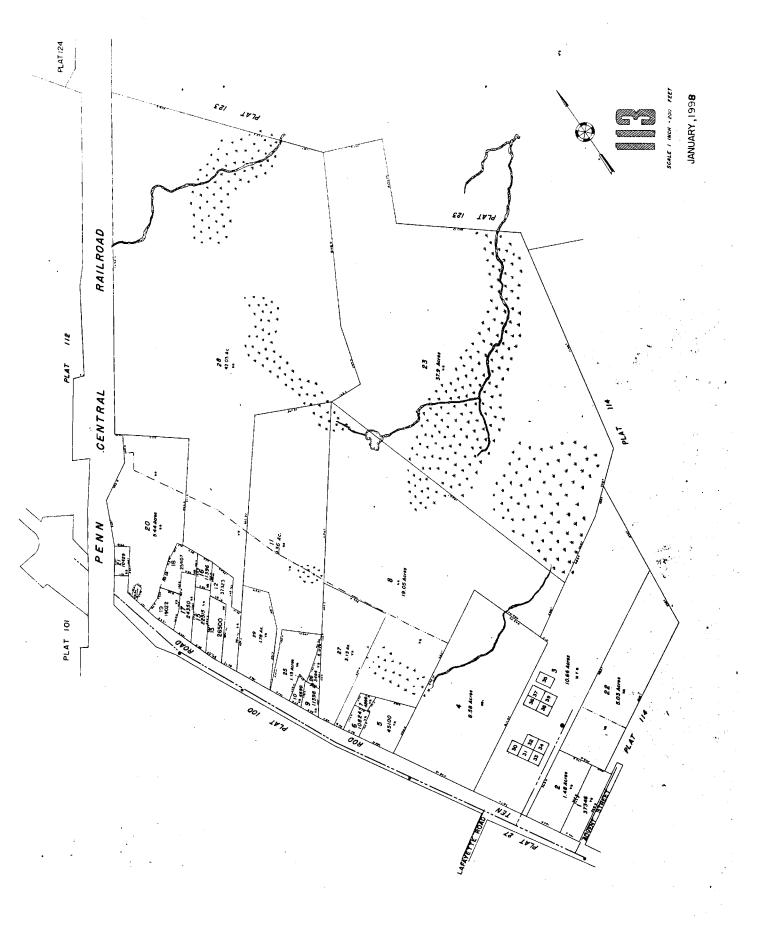






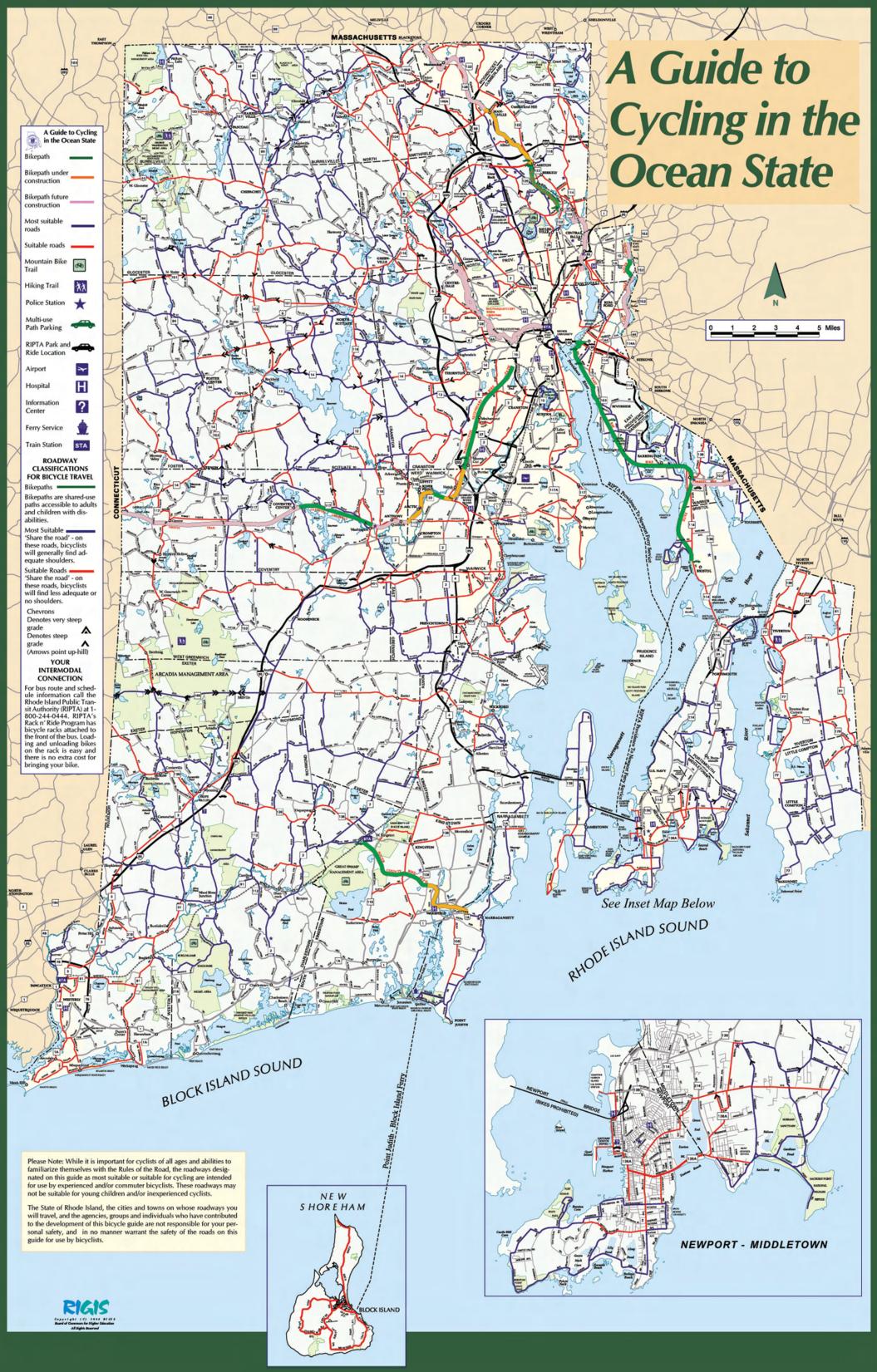


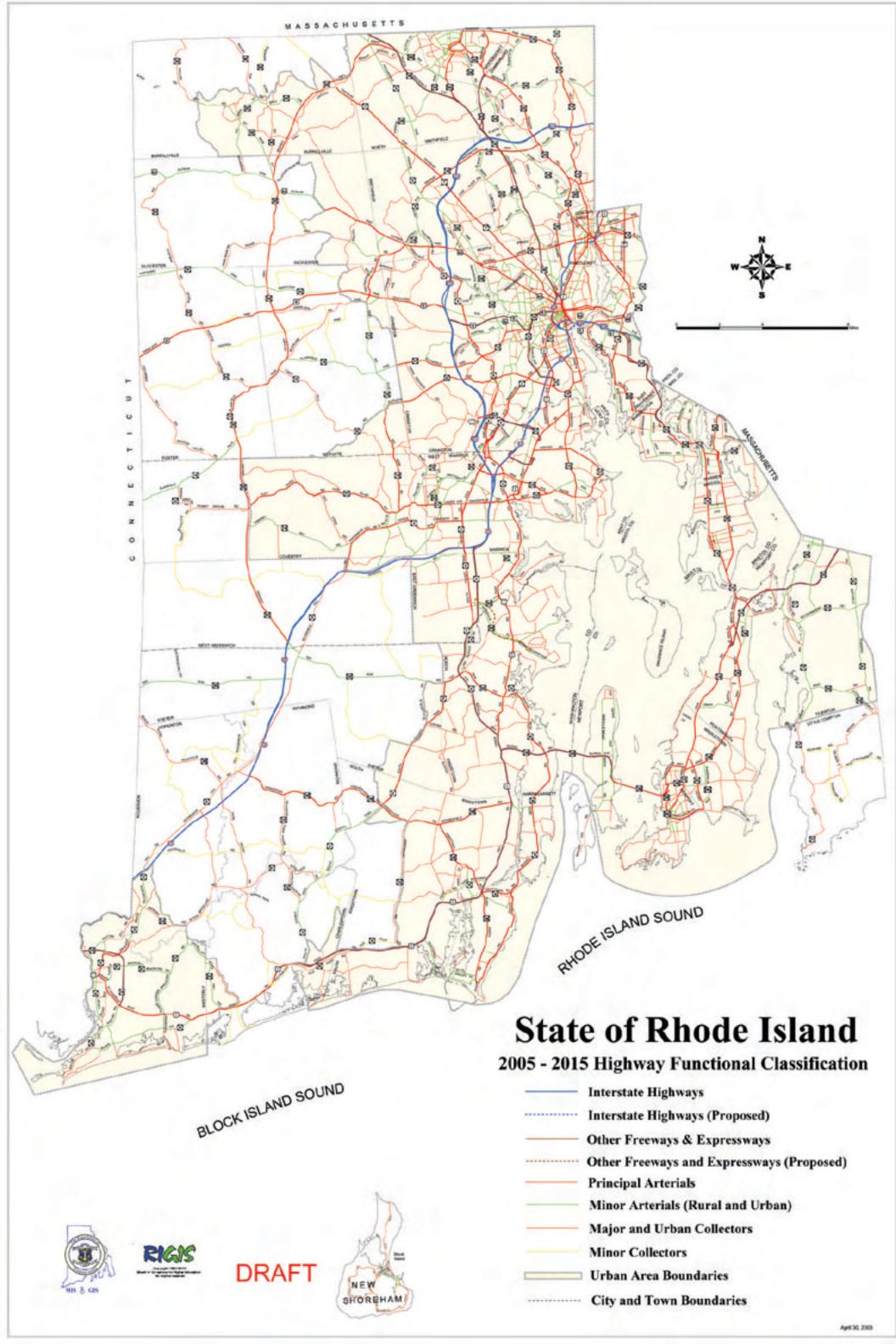


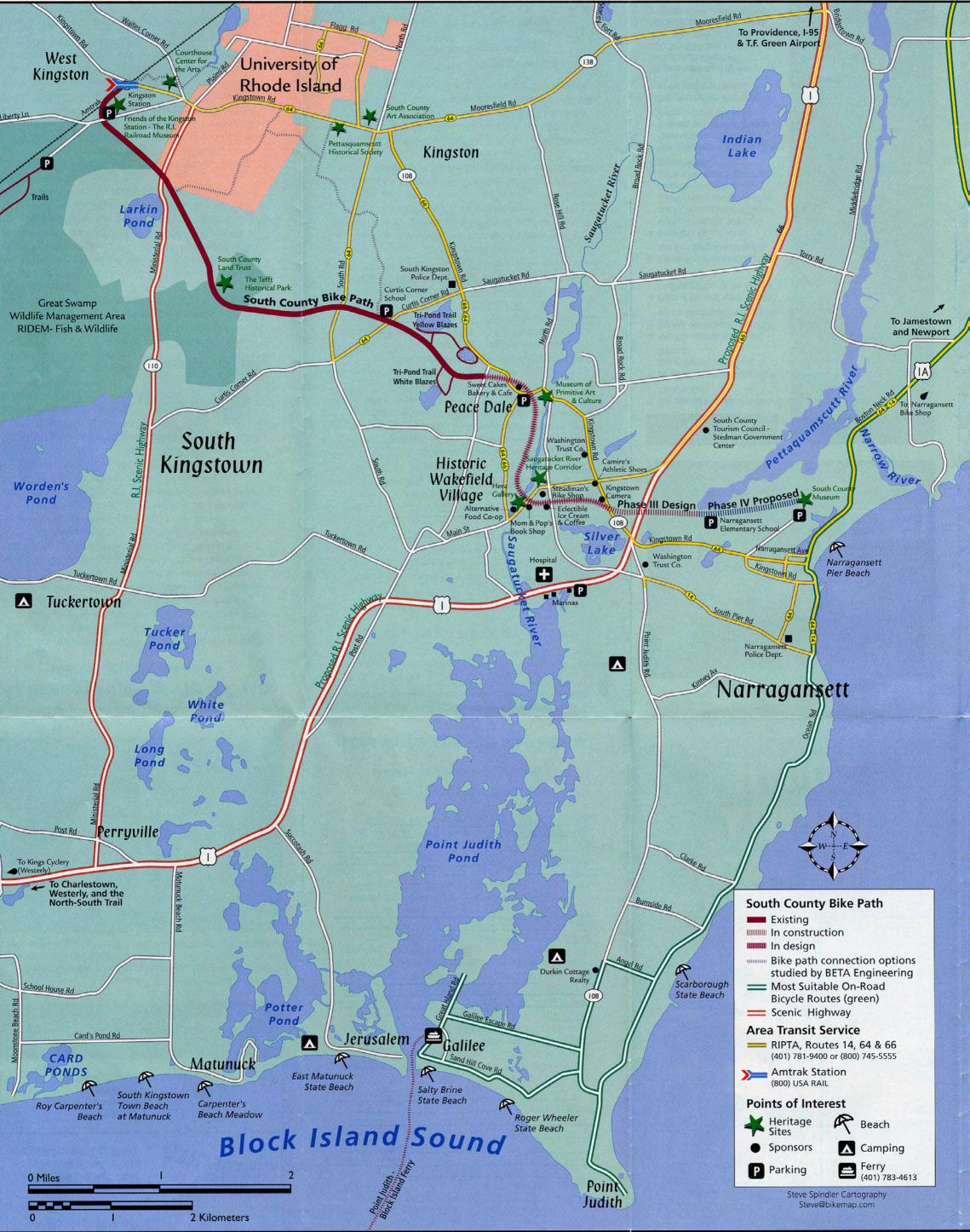


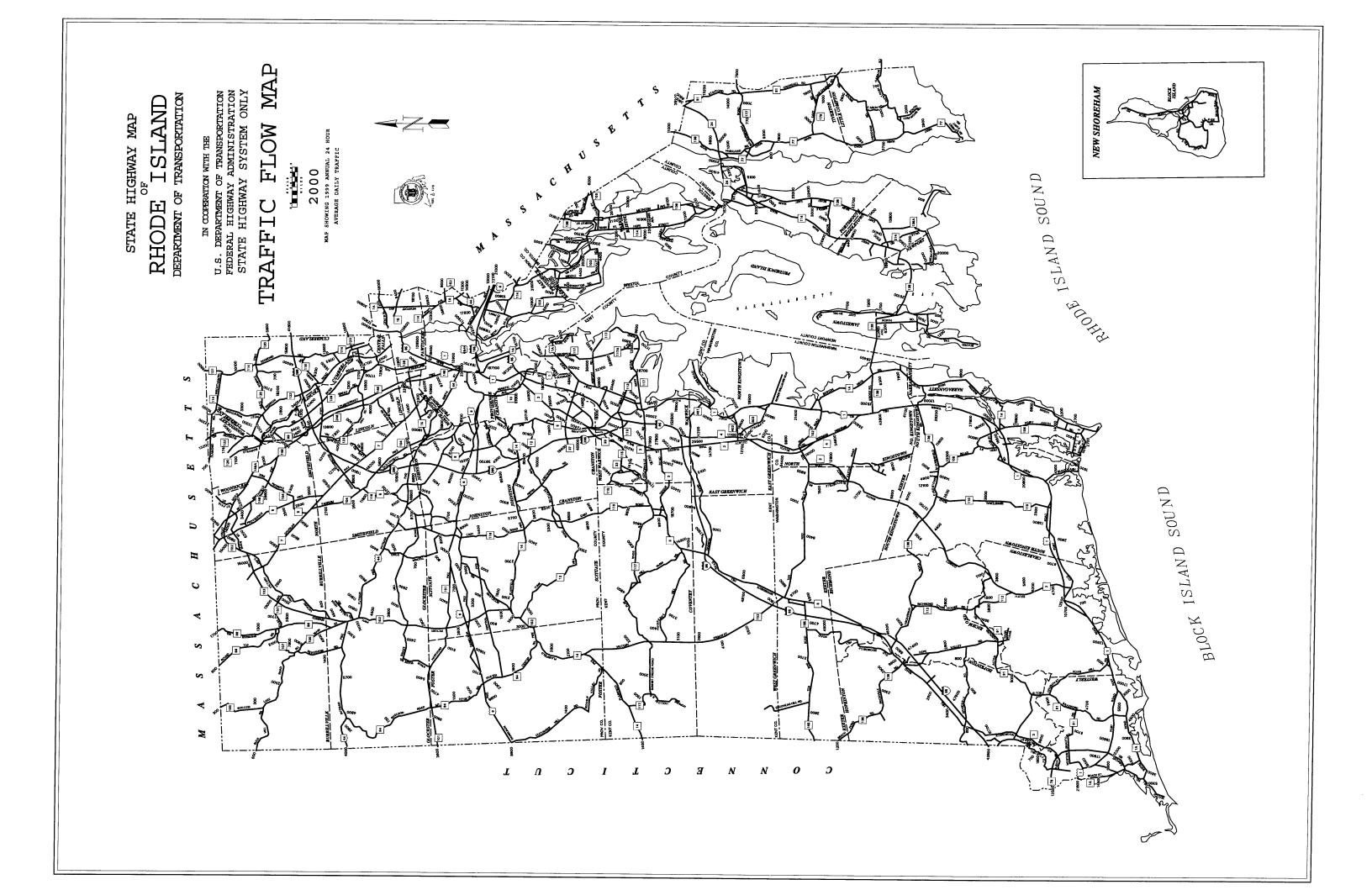
Roadway, Bike Routes & Transit Details

# ROADWAY, BIKE ROUTES & TRANSIT DETAILS











### Rack n' Ride

### **RIPTA's Bicycle Racks**

RIPTA has a great way to keep you, and the environment, in shape: Rack N' Ride. With a bike rack on 40ft. RIPTA buses, you can make bike riding part of your regular commute. Ride part way to work and finish your trip aboard a bus or take the bus one way. A regular ride will help keep you in shape, and save money on parking, gasoline and car maintenance. Plus, riding and busing help curb traffic congestion and preserves air quality around Rhode Island.

### Free and Easy

Loading and unloading bikes on the racks is easy and there is no extra cost for bringing your bike.

The rack, attached to the front of the bus, holds two bicycles. The racks have simple instructions posted right on them. Bikes in the rack don't touch each other, the bus, or other vehicles.

Each bike can be loaded and unloaded independently. You don't need to move one bike to reach the other. The rack holds most wheel and frame sizes, including children's bikes.

#### How to use bike racks

RIPTA buses have a bike rack labeled Sportworks. Be sure to check the label and follow the directions for the bike rack you're using. Lift your bike into the outside bike slot\* (unless it's already filled) fitting wheels into the slots labeled for front and rear wheels. Approach rack from curbside. Remove bike from rack. Pull spring-loaded "Support Arm" (it's labeled) over the bike's front tire for Sportswork model.

#### To use Sportsworks Bike Rack and Load Your Bike

- Approach rack from curbside.
- Face rack and pull handle labeled"Rack Lock" up.
- Pull the rack down until it's horizotal.
- Lift your bike into the outside bike slot\* (unless it's already filled) fitting wheels into the slots labeled for front and rear wheels.
- Pull spring-loaded "Support Arm" (it's labeled) over the bike's front tire.

#### Unloading your bike

Approach rack from curbside.

- Release "Support Arm".
- Remove bike from rack.
- Fold bike rack up by releasing "Rack Lock".

RIPTA welcomes you, and your bike -- you can bike and ride to work, school, or recreational activities.

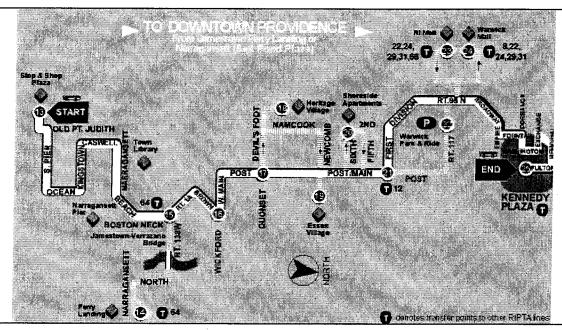
### **Policies**

- Bike racks can be used all year long
- Available Throughout the Day and Evening
- No Certification Necessary
- Under 16 must be accompanied by an adult

<sup>\*</sup> Always load your bike into the outside rack unless it is already filled.



### 14 Wickford / Narragansett - InboundView Outbound



### Weekday

Bus operates from	13 Narragansett - Salt Pond Plaza	14 Jamestown Ferry Landing	15 Rte 1A & Rte 138	16 Wickford (Brown & Main Sts.)	17 Post Rd & Quonset	18 Heritage Village	19 Essex Village	20 Shoreside Apartments	21 First & Main	22 Apponaug 4 Corners Post & Main	23 Warwick Mall	24 Ri Mall	25 Kennedy Plaza
Narragansett	6:25AM	•	6:45	6:51	6:57	-	-	-	7:07	-	•	•	7:32
Narragansett	6:50AM	-	7:10	-	-	-	_	-	-	-	•	-	7:45
<u>a</u> Jamestown	-	7:00AM	7:11	7:17	7:23	-	-	-	7:33	-	-	-	7:58
b Rte. 1a & 138	-	-	7:25AM	-	-	_	-	•	-	•	-	_	8:00
Narragansett	7:15AM	•	7:35	7:41	7:47	-	_	-	7:57	-	-	-	8:22
Narragansett	7:40AM	•	8:00	8:06	8:12	-	-	-	8:22	•	-	-	8:47
Narragansett	9:30AM	-	9:50	9:56	10:02	10:05	10:12	10:22	10:25	-	10:38	10:45	11:02
Narragansett	12:35PM	•	12:55	1:01	1:07	-	-	1:23	1:26	1:35	-	-	1:56
Narragansett	1:45PM	-	2:05	2:11	2:17	-	-	-	2:27	-	-	-	2:52
Jamestown	-	3:05PM	3:16	3:22	3:28	-	-	-	3:38	-	-	-	4:03
Narragansett	3:50PM	-	4:10	4:16	4:22	-	-	<u>.</u>	4:32	•	-	_	4:57
Narragansett	4:40PM	-	5:00	5:06	5:12	_	-	•	5:22	-	-	-	5:47
Narragansett	5:35PM	_	5:55	6:01	6:07	-	-	-	6:17	-	-	•	6:42

### Saturday

Bus operates from	13 Narragansett - Salt Pond Plaza	14 Jamestown Ferry Landing	15 Rte 1A & Rte 138	16 Wickford (Brown & Main Sts.)	17 Post Rd & Quonset	18 Heritage Village	19 Essex Village	20 Shoreside Apartments	21 First & Main	22 Apponaug 4 Corners Post & Main	23 Warwick Mall	24 Ri Mali	25 Kennedy Plaza
Narragansett	10:15AM	-	10:34	10:40	10:46	10:49	10:56	11:06	11:09	-	11:22	11:32	11:49
Narragansett	1:40PM	-	1:59	2:05	2:11	-	-	-	2:21	-	-	-	2:46
Narragansett	4:55 <b>PM</b>	-	5:14	5:20	5:26	-	-	-	5:36	-	-	-	6:01

### Sunday/Holiday

No service

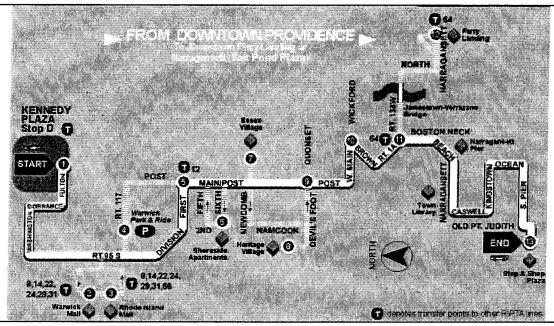
c Trip serves Warwick Park-n-Ride lot on Rte. 117

d #60 Newport Express Bus operates via I-95 - Rte. 4 - Rte. 1 - Rte. 138

e Trip operates express via 1-95



### 14 Wickford / Narragansett - OutboundView Inbound



#### Weekday

								,					
Bus operates to	1 Kennedy Plaza	2 Ri Mall	3 Warwick Mall	4 Apponaug 4 Corners Post & Main	5 First & Main	6 Shoreside Apartments	7 Essex Village	8 Heritage Village	9 Post Rd & Quonset	10 Wickford (Brown & Main Sts.)	11 Rte 1A & Rte 138	12 Jamestown Ferry Landing	13 Narragansett - Salt Pond Plaza
Jamestown	7:40AM		•	-	8:05	_	-	-	8:15	8:21	8:27	8:38	•
Narragansett	8:10AM	-	-	-	8:35		•	•	8:45	8:51	8:57	•	9:16
Narragansett	11:03AM	-	-	-	11:28	**************************************	-	•	11:38	11:44	11:50	•	12:09
© Narragansett	12:10PM	-	-	12:37	12:46	-	-	-	12:56	1:02	1:08	-	1:27
Narragansett	2:00PM	2:17	2:24	-	2:37	2:40	2:50	2:54	2:57	3:03	3:09	-	3:28
Narragansett	3:10PM	-	-	-	3:35	=	-	-	3:45	3:51	3:57	-	4:16
Narragansett	4:20PM	-	-	-	4:45	-	-	-	4:55	5:01	5:07	-	5:26
Jamestown	4:45PM	-	-	-	5:10	-	-	-	5:20	5:26	5:32	5:43	-
<u>e</u> Narragansett	4:50PM	-	-	•	-	_	-	-	-	-	5:25	-	5:44
d Rte. 1a & 138	5:10PM	•	-	-	-	-	-	-	-	-	5:45	-	-
Narragansett	5:15PM	-	-	-	5:40	-	•	-	5:50	5:56	6:02	-	6:21
Narragansett	6:15PM	-	-	-	6:40	-	-	•	6:50	6:56	7:02	-	7:21

### Saturday

	1	2	3	4	5	6	7	8	9	10	11	12	13
Bus operates to	Kennedy Plaza	Ri Mall		Apponaug 4 Corners Post & Main	First & Main	Shoreside Apartments	Essex Village	Heritage Village	Post Rd & Quonset	Wickford (Brown & Main Sts.)	Rte 1A & Rte 138	Jamestown Ferry Landing	Narragansett - Sait Pond Plaza
Narragansett	9:00AM	-	-	-	9:25	-	-	-	9:35	9:41	9:47	-	10:06
្ន Narragansett	12:15PM	-	•	12:42	12:51	-	-	-	1:01	1:07	1:13	-	1:32
<u>c</u> Narragansett	3:05PM	3:22	3:32	3:42	3:51	3:54	4:04	4:08	4:11	4:17	4:23	•	4:42

### Sunday/Holiday

No service

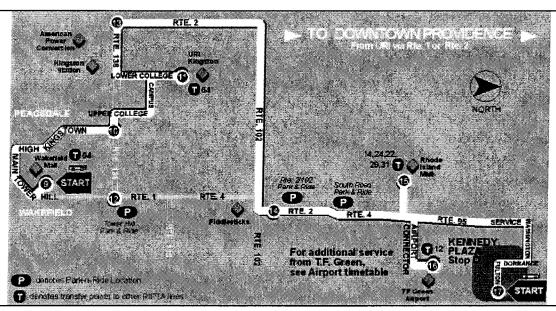
c Trip serves Warwick Park-n-Ride lot on Rte. 117

d #60 Newport Express Bus operates via I-95 - Rte. 4 - Rte. 1 - Rte. 138

e Trip operates express via I-95



### 66 Providence / URI - InboundView Outbound



### Weekday

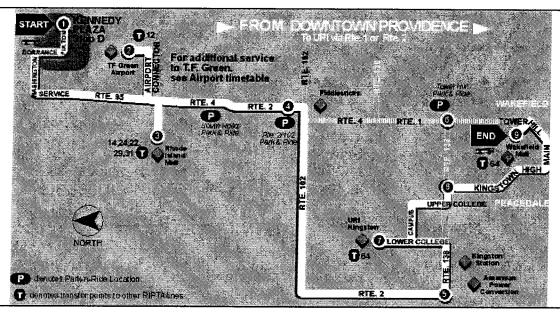
Bus operates	9 Wakefield Mall	10 Peacedale Rotary	11 University Of Rhode Island	12 Rte 1 & 138 West	13 Rte 2 & 138	14 Rte 2 & 102 Park-N- Ride	15 Ri Mall	16 T.F. Green Airport	17 Kennedy Plaza
a Rte. 1	6:32AM		=	6:41	A CONTRACTOR OF THE CONTRACTOR	6:52	•	-	7:21
a Rte. 1	6:47AM	-	-	6:56	-	7:07	•	-	7:36
a Rte. 1	7:02AM	-	-	7:11	-	7:22	-	-	7:51
a Rte. 1	7:17AM	-	_	7:26	-	7:37	-	-	8:06
<u>a</u> Rte. 1	7:47AM	-	-	7:56	**	8:07	-	-	8:36
Rte. 2	9:12AM	9:20	9:29	_	9:35	9:46	10:01	10:11	10:28
Rte. 2	10:29AM	10:37	10:46	-	10:52	11:03	11:18	11:28	11:45
Rte. 2	12:24PM	12:32	12:41	-	12:47	12:58	1:13	1:23	1:40
Rte. 2	1:44PM	1:52	2:01	-	2:07	2:18	2:33	2:43	3:00
Rte. 2	**************************************	-	3:30PM	-	3:36	3:47	4:02	-	4:19
Rte. 2	3:30PM	3:38	3:47	-	3:53	4:04	4:19	-	4:36
Rte. 2	4:50PM	4:58	5:07	-	5:13	5:24	5:39	-	5:56
b Rte. 108	5:04PM	5:12	5:21	-	-	-	-	-	-
Rte. 2	-	-	5:35PM	-	5:41	5:52	6:07	6:17	6:34
<u>b</u> Rte. 108	5:29PM	5:37	5:46	-	-	-	-	-	•
b Rte. 108	5:54PM	6:02	6:11	-	-	-	-	•	-
b Rte. 108	6:04PM	6:12	6:21	-	•	-	-	-	-
b Rte. 108	6:34PM	6:42	6:51	-	_	-	-	-	*
Rte. 2	-		7:05PM	-	7:11	7:22	_	-	7:51
<u>c</u> Rte. 2	-	-	7:45PM	8:00	-	8:11	-	-	8:40
Rte. 2	8:10PM	8:18	8:27	•	8:33	8:44	-	-	9:13

### Saturday

	9	10	11	12	13	14	15	16	17
Bus operates via	Wakefield Mail	Peacedale Rotary	University Of Rhode Island	Rte 1 & 138 West	Rte 2 & 138	Rte 2 & 102 Park-N- Ride	Ri Mall	T.F. Green Airport	Kennedy Plaza
Rte. 2	8:24AM	8:32	8:41	-	8:47	8:58	9:13	9:23	9:38
Rte. 2	11:26AM	11:34	11:43	-	11:49	12:00	12:15	12:25	12:40
Rte. 2	2:30PM	2:38	2:47	-	2:53	3:04	3:19	3:29	3:44



### 66 Providence / URI - OutboundView Inbound



### Weekday

	1	2	3	4	5	6	7	8	9
Bus operates via	Kennedy Plaza	T.F. Green Airport	Ri Mall	Rte 2 & 102 Park-N- Ride	Rte 2 & 138	Rte 1 & 138 West	University Of Rhode Island	Peacedale Rotary	Wakefield Mali
<u>e</u> Rte. 108	-	-	-	-	-	-	6:15AM	6:24	6:32
<u>e</u> Rte. 108	-	-	-	-	-	-	6:30AM	6:39	6:47
<u>e</u> Rte. 108	-	-	-	-	-	_	6:45AM	6:54	7:02
<u>e</u> Rte. 108	-	•	-	-	-	*	7:00AM	7:09	7:17
Rte. 2	6:25AM	*	6:42	6:57	7:08	-	7:14	-	_
<u>e</u> Rte. 108	-	-	-	-	-	-	7:30AM	7:39	7:47
Rte. 2	7:40AM	-	7:57	8:12	8:23	-	8:29	8:38	8:46
Rte. 2	8:55AM	9:10	9:20	9:35	9:46	-	9:52	10:01	10:09
Rte. 2	10:50AM	11:05	11:15	11:30	11:41	-	11:47	11:56	12:04
Rte. 2	12:10PM	12:25	12:35	12:50	1:01	-	1:07	1:16	1:24
Rte. 2	2:00PM	2:15	2:25	2:40	2:51	<del>-</del>	2:57	3:06	3:14
Rte. 2	3:20PM	-	-	3:49	4:00	-	4:06	4:15	4:23
d Rte. 1	4:15PM	-	-	4:44	-	4:55	-	-	5:04
d Rte. 1	4:40PM	-	•	5:09	-	5:20	-	-	5:29
d Rte. 1	5:05PM	-	-	5:34	-	5:45	-	_	5:54
d Rte. 1	5:15PM	-	-	5:44	-	5:55	-	-	6:04
₫ Rte. 1	5:45PM	-	-	6:14	•	6:25	_	-	6:34
Rte. 2	6:50PM	7:05	7:15	7:30	7:41	-	7:47	7:56	8:04
Rte. 2	8:15PM	8:30	-	8:44	8:55	_	9:01	9:10	9:18
Rte. 2	9:40PM	-	•	10:09	10:20	-	10:26	10:35	10:43
f Rte. 2	12:15AM	-	12:32	12:47	12:58	-	1:04	-	-

### Saturday

Bus operates via	<b>1</b> Kennedy Plaza	<b>2</b> T.F. Green Airport	3 Ri Mall	4 Rte 2 & 102 Park-N- Ride	5 Rte 2 & 138	6 Rte 1 & 138 West	7 University Of Rhode Island	8 Peacedale Rotary	9 Wakefield Mall
Rte. 2	9:55 <b>AM</b>	10:10	10:20	10:35	10:46	-	10:52	11:01	11:09
Rte. 2	1:00PM	1:15	1:25	1:40	1:51	-	1:57	2:06	2:14
Rte. 2	4:00PM	4:15	4:25	4:40	4:51	-	4:57	5:06	5:14

Correspondence & Meeting Notes



# NORTH KINGSTOWN, RHODE ISLAND

80 BOSTON NECK ROAD NORTH KINGSTOWN, R I 02852-5762 PHONE. (401) 294-3331 www.northkingstown.org

INCORPORATED 1674
February 11, 2005

Katherine Trapani RI Statewide Planning One Capitol Hill Providence, RI 02908

Re:

Transportation Improvement Program (TIP) Bicycle Pedestrian Program – Study and Development – Wickford Junction Spur

Dear Ms. Trapani:

In response to your correspondence dated January 5, 2005, the Town is writing in reference to the Wickford Junction Spur that is currently listed in the Study and Development portion of the Bicycle Pedestrian Program of the TIP.

The North Kingstown Town Council recently held a public meeting to discuss the South County Bike Facilities Wickford Junction to Wickford Village Bike Path site assessment report prepared by Vanasse Hangen Brustlin (VHB) for the RI Department of Transportation and solicit feedback from those mostly directed impacted by a potential bike path in this corridor.

Based on the discussions during this meeting, the Town of North Kingstown is requesting that the RIDOT not pursue a bicycle path that would utilize the former Newport to Wickford Railroad Right-of-Way at this time. Instead, the Town Council is asking that the RIDOT investigate the merits of utilizing the Route 102 right-of-way as a potential bicycle facility. The Town believes the RIDOT can provide improvements to the Route 102 corridor that would make it more bicycle friendly, benefit not only bicyclists but also pedestrians, and calm vehicular traffic as well.

Thank you for your assistance in this matter. If you should have any questions or require additional information, please feel free to contact Marilyn F. Cohen, Director of Planning, at 294-3331, Extension 310.

Sincerely,

Anthony F. Miccolis, Jr.

President, North Kingstown Town Council

CC:

North Kingstown Town Council Richard Kerbel, Town Manager Marilyn F. Cohen, Director of Planning Steven Devine, RIDOT

FER 18



## TOWN OF NORTH KINGSTOWN, RHODE ISLAND

80 BOSTON NECK ROAD NORTH KINGSTOWN, RT 02852-5762 PHONE. (401) 294-3331 www.northkingstown.org

June 25, 2004

Mr. and Mrs. Robert Chatham 164 Atherton Avenue North Kingstown, RI 02852 RECEIVED

JUN 28 2004

**MANAGE HANGEN BRUSTLIN, INC.**PROVIDENCE, RI

RE: Proposed Bike path from Wickford Junction to Wickford

Dear Mr. and Mrs. Chatham:

I write in response to your recent letter to myself, Town Manager Richard Kerbel, and Rebecca Pellerin of this office and on behalf of the three of us. We appreciated your taking the time to provide us with your thoughts on the report prepared by VHB for a proposed bike path from Wickford Junction to Wickford. We expect that some time during the summer the Town Council will hold a work session to discuss this report and also the report expected for the Wickford to Quonset bike path that has also been under discussion. Shortly we will begin developing the mailing list for the Wickford Junction to Wickford proposal so that we can send a notice to property owners about the work session date and location. Prior to the work session we will forward to the Town Council letters and other commentary received, such as your letter, so that they will understand how property owners feel about the project. The Town Council has already received a copy of the report.

I do want to take a few moments to comment on what is characterized in your letter as insincere assurances by the Planning Department. First, this project was not a Town project; Planning Department involvement was limited to one meeting with VHB staff. At that meeting, which occurred before your purchase, we shared what local knowledge we had about the former rail right-of-way, including the fact that it was our understanding that the previous property owner of AP 92/Lot 222 supported the concept of using it for a bike path. When we met with you, I shared the experience of the feasibility studies conducted for the reuse of the former Seaview Railroad right of way, which led to designating Boston Neck Road for bicycle use; I expected a similar outcome, that is the option of using the shoulders along Ten Rod Road. I was clearly surprised to read in the report that VHB considered Ten Rod Road too dangerous for bicycle traffic. No interim meetings were held with RIDOT/VHB between the time of the initial meeting with RIDOT/VHB, the Planning Department requested

Chatham/June 25, 2004 Page 2

public meetings and was told that the contract was solely for examining the feasibility of the corridor, among others that VHB was studying. When we met with you, we clearly disclosed the study, as much as we knew, that the RIDOT was engaged in. You indicated we did not disclose our support for the bike path and indeed, our office had not taken a position on the bike path, if only because we were awaiting the outcome of the report to understand the issues associated with developing a bike path along the right-of-way.

Let me also speak to the reference to the study conducted by the students from Brown University. Students use North Kingstown for studies all the time and we take the time to meet with them and share what information we have. Just because we are given recognition does not mean we endorse what is in their reports. A good example of a similar situation is the recognition given this office by the Quonset Master Plan in 1998 and 2001. In fact, the Master Plan tried to suggest that since we had participated in some of their committees, the Planning Department and, thus, the Town endorsed those Master Plans that included a proposal for a container port. That was clearly not the case!

As we move forward towards the Town Council work session, we welcome the opportunity to talk further with you and encourage keeping our lines of communication open. Please feel free to contact me or Principal Planner Rebecca Pellerin if you would like to meet with us; we can be reached at (401) 294-3331, Ext. 310/312.

Sincerely,

Marilyn F. Cohen, AICP

Director of Planning

Cc:

Richard Kerbel, Town Manager Rebecca Pellerin, Principal Planner Steven Devine, RIDOT

Scott D'Amelio, PE, VHB

Marlyn F. Cohen

JUN 23 2004

June 21, 2004

Mr. Richard Kerbel, Town Manager

Ms. Marilyn Cohen, Planning and Development Director

Ms. Rebecca Pellerin, Principal Planner

VANASSE HANGEN BRUSTLIN, INC. PROVIDENCE, RI

Dear Mr. Kerbel, Ms. Cohen, and Ms. Pellerin,

We're writing to voice our firm opposition to the favored alternative in the February 2004 Draft VHB study of the bike path being proposed which would pave the beautiful walking trails that now exist on the former Newport to Wickford Rail line in Wickford.

We find this report to be disingenuous in its presentation of the impact that Alternative 2B will have on our neighborhood and our private property. Notably:

- The report calls Lot 222/Plat 92 "the abandoned railway right-of-way." In fact, it's neither abandoned, nor a right-of-way. It's a piece of private property that we recently paid several hundred thousand dollars for. The phrase is a feeble attempt to make the issue of a large taking of private property appear acceptable. The property is very much used and is highly valued by its new owners and the neighbors along Atherton, Lindley, Prospect, and Rome as a Greenway that encourages quiet, slow-paced enjoyment of its scenic vantage points.
- Paving this Greenway with a fourteen-foot wide strip of asphalt would eliminate this local "nature sanctuary." This is the exact phrase used to market the Lot 69/222 property just one year ago. The bike path and its associated traffic would significantly impact the herons, egrets, ibis, and other wildlife and plants that call the cove adjacent to the proposed path home.
- Additional takings of our property from lot 69/Plat 92 would be required for a ramp to Lindley Ave. In its discussion of the alternative (1B) that routes the path onto Lindley Avenue, the report characterizes the 120' ramp to bring the path up to the road grade as "short." This misrepresentation fails to note that this "short" ramp would cut through most of our backyard on Lot 69, which is joined as a parcel to Lot 222.
- The study speaks of "alternates" -- except for our land. The use of the term "alternates" is misleading. As far as the Draft study is concerned, there are no proposed alternates to the taking of Lot 222 -- it's a given. "Alternates" 1B, 2B and 3B all depend on a complete taking of our Greenway. Genuinely creative alternates would open to consideration for example, a route through Cocumcussuc Park that could ultimately tie into the West Main terminus of a Quonset/Wickford bike path, or a route down Phillips Street, both of which would meet all of the stated transportation and recreation goals of the path.

and the state of t

Housing developers in Wickford today need to satisfy common space guidelines. These properties in question are the common space for the Loop Drive/Lindley area. The Sherman farm is no longer, having been developed from Prospect Ave down to the Greenway. At this time, open space wasn't mandated by existing laws, but today's laws were conceived based on areas like this, where planners said "no" to further asphalt.

What we find more insincere than the report, however, were the assurances provided to us by representatives of the NK Planning Department that there was no serious consideration of a bike path being put through Lot 222/69. In conversations that took place in July 2003, two NK Planning Department employees listed in the Brown University study downplayed the possibility of a bike path proceeding along Lot 222 because of the need for takings; they claimed the route would likely follow Ten Rod Road. Based on this advice, we proceeded with our purchase of the Lot 222/69 parcel in August 2003. Despite our repeated inquires, the facts of the DOT support and other engineering studies were not brought to our attention. At that time we identified ourselves as prospective buyers of this property, yet none of the NK Planning Department representatives disclosed their support or full depth of knowledge about the advanced status of this project.

As a tax source, the Greenway lots are revenue generators for the Town; during these times of budget cuts, it's difficult to understand how this land could be turned into an area that NK public safety officers would need to police, and one on which parking, signage, and lighting would have to be provided. Lighting, fire and police are three areas recently on the chopping block in the town's budget for the upcoming year. How can the town justify the additional financial commitment that this path would require?

The Greenway lots are some of the few places left in the Loop Drive/Lindley neighborhood for people with birding, plant and other quiet outdoor pursuits to spend their time. In contrast, there are many places for bikers to pursue their interests in NK: Boston Neck Road has a bike path, Ten Rod Road has a very wide shoulder for biking; there are beautiful winding back roads around the Gilbert Stuart museum, and there are mountain bike trails at Rome Point. There are few areas as special as this one near the heart of the village to walk quietly and be in nature. Let's please leave it as it is.

We formally request that you develop valid alternates to the taking of Lot 222 for a proposed bike path and inform us of your progress.

Sincerely,

Deeder Chathan Bob Chath Bob and Deedee Chatham

164 Atherton Avenue, Wickford

(401) 667-7025

Cc: Mr. Scott A. D'Amelio, P.E., VHB



### STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Rhode Island Department of Transportation ENVIRONMENTAL & INTERMODAL PLANNING Two Capitol Hill, Providence, RI 02903-1124 ENVIRONMENTAL PHONE (401) 227 2023 INTERMODAL PHONE (401) 222-4203 FAX (401) 222-2207 TDD (401) 222-4971

February 5, 2004

Mr. John Lees 11 Prospect Avenue North Kingstown, RI 02852

Dear Mr. Lees:

Thank you for your letter of January 28, 2004 regarding the proposed bike path projects in North Kingstown. Also, Representative Melvoid Benson recently forwarded to me copies of two letters you had written to the Town of North Kingstown on a proposed bike path along the former Wickford Junction railroad right-of-way. I hope this letter helps to clarify any issues and provides you with the latest information.

First, the Wickford Village to Quonset project is a Town-led project with no RIDOT participation. We are simply reimbursing the Town for its consultant services as an adjunct to our 1999 West Bay Bikeway Study. The Town would be the point of contact for this project.

Secondly, the December 2002 Wickford Junction Bike Path Study you referenced was undertaken by Brown University students as part of a class project. Other than attending a final presentation, RIDOT did not participate in the study's development. Therefore, we cannot substantiate any of the findings in the report, and, being a student project, were not responsible for the report's dissemination.

However, since that time, a project to study this former railroad right-of-way was included in the FY 2001-2002 Transportation Improvement Program (TIP) for feasibility study only. The TIP is a 2-year program, developed by the Transportation Advisory Committee (TAC) and State Planning Council that includes all transportation projects in the State. Each phase of project development must be approved by the TAC for inclusion in the TIP.

This project was approved for a feasibility study only. As such, RIDOT hired consultant services to undertake a basic feasibility study to determine if a bike path at this location is feasible. The report will document alternatives, environmental constraints and estimate project costs so all information is available to local and state decision-makers.

Mr. Jack Lees Page 2 February 5, 2004

For this project concept to advance beyond the feasibility phase, extensive coordination with the Town, and documented support from the Town for the project will be necessary. Also, inclusion of this project into the next TIP, through a public process, will be necessary to advance it into the next phase of development.

We anticipate having the first draft of the feasibility study completed by the end of February. We will continue to work through the Town up to completion of the feasibility phase.

Once again, thank you for sharing your concerns on this proposed project. We hope this information is helpful and provides you with the current status on this proposed project. If you require further information, please do not hesitate to contact me at 222-4203 extension 4063, or by e-mail at sdevine@dot.state.ri.us.

Sincerely,

Stephen A. Devine

Chief, Intermodal Planning

#### SAD/amt

c: The Honorable Melvoid J. Benson
The Honorable Ken Carter
M. Cohen, Town of North Kingstown
Edmund T. Parker, Jr., P.E.
J. M. Bennett, P.E.

B. Frezza

S. Church

### RECEIVED



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

FEB 04 2004

VANASSE HANGEN BRUSTLIN, INC.

Rhode Island Department of Transportation ENVIRONMENTAL & INTERMODAL PLANNING Two Capitol Hill, Providence, RI 02903-1124 ENVIRONMENTAL PHONE (401) 222-2023 INTERMODAL PHONE (401) 222-4203 FAX (401) 222-2207 TDD (401) 222-4971

February 2, 2004

Mr. Scott A. D'Amelio, P.E. Project Manager Vanasse Hangen Brustlin, Inc. 530 Broadway Providence, RI 02909

Re:

URI/South County Bike Path Connector

Wickford Junction Bike Path Narrow River Bike Path

### **Highway Engineering Comments**

Dear Mr. D'Amelio:

Attached for your review and incorporation into the draft Site Assessment Reports are comments from our Highway Engineering Section.

Also, we recommend a meeting to discuss the finalization and distribution of all the draft reports to the local communities. Please contact Steven Church to arrange the meeting.

Stephen A. Devine

Chief, Program Development

Environmental & Intermodal Planning

Attachments

C/ J.M. Bennett, S. Church, w/out attachments



### State of Rhode Island and Providence Plantations Inter-Office Memorandum

To:

Vincent J. Palumbo, P.E.

Chief Civil Engineer

Dept.:

Highway Engineering

From:

David A. Craveiro, P.E. Dec

Senior Civil Engineer

Dept.:

Highway Engineering

Subject:

South County Bicycle Paths

Wickford Junction to Wickford Village Bicycle Path; URI South County Bicycle Path Connector; and The Narrows Bicycle Path; Study and Development; Site Assessments and Alternative Plans Analysis Reports;

**Review Comments** 

Date:

January 21, 2004

The Study and Development Element of the Rhode Island Department of Transportation's Transportation Improvement Program includes three studies for three separate connectors to the South County Bicycle Path system. The studies for the Wickford Junction connector, the URI South County connector and the Narrows Bike Path connector in Narragansett were transmitted to the Highway Design for review. The Site Assessment and Alternative Analysis Reports for each connector were reviewed and the following comments are offered. Additionally, a matrix chart with pertinent data used in evaluating each connector was also prepared. While the evaluation factors are based on the consultant's reports each element was assigned a rating used to assess the best alternative and its relative potential for future construction. The following comments are offered:

### I. Wickford Junction to Wickford Village:

- a. The alternate identified as Alternate 1 in the report appears to be the best alternate to advance to construction.
- b. The environmental impacts are minimal and although wetlands' permitting is required the path could easily be constructed if the local authorities and local residents supported the project.

- c. Alternate 1 is also conducive to safety and interaction with motor vehicles Fewer conflicts between cyclists and vehicular traffic would result if Alt 1 were selected and implemented.
- d Unlike alternates 1A, 1B, and 2B this alternate does not require additional Right-of-Way or utility relocations.
- e Of all the alternates Alt 1 would have the fewest impacts on the entire area.

Unlike the reports for the URI/South County Bike Path Connector and the Narrow River Bike Path Connector titled Bike Path Alternative Analysis, this report was titled Site Assessment Report. No discernable differences in the analysis methodology or report format were noted. All three reports were prepared by VHB. The report lacks discussion on the potential shared use capabilities of each alternate. Based on our review Alternate 1 appears to be a viable alternate and could be constructed if all environmental requirements and permitting requirements are met. Also crucial to implementation of this project would be support by local authorities and residents of the area. Without local support and local input the project should not be advanced.

#### II. URI/South County Bike Path Connector:

- a. There were 4 alternatives assessed for the URI/South County Bike Path Connector. All 4 alternates involve shared use Bike Paths with the existing highway and road system in the area.
- b Alternates 2 and 3 are similar and both could possibly be built without conflicting with traffic exiting or proposed traffic patterns or facility use.
- c. All 4 alternates require some right-of-way involvement but alternate 4 involves 17 properties whereas alternates 1, 2, and 3 on involve 4 or fewer properties.
- d. All 4 alternates appear to require environmental permitting involving stream crossings with either a bridge widening or a new or modified culvert resulting from the Bicycle Path Improvement.
- e. The cost factor for each Alternate may be an important factor in the final analysis of which alternative is constructed. Alternates 3 and 4 are substantially less costly than alternate 2. Alternate 1 has not had an estimate generated as yet. While alternate 2 is higher in cost than alternates 1, 3, and 4 it still remains as one of the most desirable alternates.
- f. Overall alternates 2 and 3 are 1.4 and 1.6 miles long respectively and alternates 1 and 4 are 2.1 and 2.2 miles respectively. All four alternates will provide a beneficial connection to the University of Rhode Island campus. Additionally, alternate 2 provide a connection with Kingston Station. Alternate 3 connects to campus and residential areas of URI, the shuttle bus system and to the South County Bike Path.

Based on the report and the alternatives discussed it appears that at least two of the alternatives would be viable to advance to construction. It appears that although higher in cost the greatest benefit would come from Alternate 2. Alternate 3 could also be constructed and provide a viable facility that would benefit the area. The State of Rhode Island will have to decide if a bicycle facility is to be constructed after evaluating many factors used in the decision-making process especially local input and environmental factors.

#### III. South County Bike Facilities/The Narrows Bike Path:

- a The Narrows Bike Path proposal involves two alternative routes. Each alternative would be primarily located on an existing utility easement. Alternate 1 would be located on an electrical utility easement and Alternate 2 would be located on an existing sewer utility easement.
- b. The electrical easement appears to be the most desirable location for construction of a bike path. There will be environmental impacts on existing wetlands and the existing floodplain in the area with both the electrical and the sewer easement alternatives. Substantially fewer impacts would result if the bike path were to be constructed on the electrical easement alignment. Substantially more environmental impacts on wetlands and floodplains would result if the sewer easement were to be selected for construction.
- c. Both Alternates would involve 3 at grade crossings with existing roadway Systems. The electrical easement alternate would offer access to neighboring cul-de-sacs and residential areas. That access could also become an objectionable attribute to some local residents. They will have to decide during the public involvement process whether the facility is a benefit or a detriment to existing neighborhoods. The electrical easement provides better sight distance and has some safety advantages. Also, the sewer alternate would involve more maintenance and interference with the shared use aspects of the facility.
- d. Utility relocations and associated work would be approximately the same for either alternate.

Overall the it appears that the bicycle path facility being studied in this proposal for the Narrow River Bike Path, would be beneficial and useful to the community of Narragansett. It would also compliment the existing system of bike paths, pedestrian ways, and greenways along with shared use facilities. The study and development is at a point where the local citizens with their local elected officials will have to decide if the effort should proceed. In order to proceed substantial commitment of resources would have to allocated.

All three bike path studies reviewed; i.e. Wickford Village, the URI/South County Bike Path Connector and the Narrows Bike Path, Narragansett have buildable alternatives and each would benefit the community it would serve. Each will have to be evaluated on its merits and a decision made whether to advance the project to design.

SOUTH COUNTY BIKE FACILITIES - THE NARROWS BIKE PATH	IKE FACILITIES	S - THE NARRO	WS BIKE PATH				
BICYCLE PATH DESCRIPTION &	ENVIRON- MENTAL FACTORS	DRAINAGE FACTORS	SAFETY & COMPATIB-ILITY	UTILITY INVOLVE-MENT	PERMITTING	ROUTE SELECTION	TSOO
				-			
ELECTRICAL EASEMENT ROUTE BRIDGEPOINT DRIVE TO	WETLANDS	LITTLE IMPACT	ROUTE	>	SOME	17 PRIVATE	MOST OF ROUTE
METTATUXET ROAD (PREFFERED	LIMITED AT	FLOODPLAIN	ROADWAY	POLES WILL HAVE TO BE	PERMITTING MAY BE	PROPERTIES W/	ON 50' POWER
ALTERNATE)	STRUCTURE		CROSSINGS	RELOCATED	REQUIRED	INCLUDED	COST LESS ALT
SEWER EASEMENT ROUTE	ROUTE NEAR	SIGNIFICANT	ROUTE		SOME	5 PROPERTIES	MOST OF ROUTE
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IMPACTS)	FACTORS		TRAFFIC COMPATIB-ILITY	ROW/PARKING/U		RATING 1-5		
ALTERNATE 4 BOUTE 420					•			
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				INVOLVED	CRUSS RIVER	2 BEST ALTERNATES	ALTERNATES 3&4 BETTER	
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### JOHN & PAULA LEES 11 PROSPECT AVENUE NORTH KINGSTOWN, RI, 02852 401-294-4393, E-MAIL plees7@cox.net

January 28, 2004

To: Steve Devine RIDOT, Two Capitol Hill Providence, RI, 02903

Re: Proposed Bicycle Paths & Studies
Wickford Junction To Wickford Village
Wickford Village To Quonset

Dear Mr. Devine:

I have enclosed a copy of a self-explanatory letter from State Representative, Kenneth Carter that is germane to the referenced Bike Paths. It is my understanding that State Representative, Melvoid Benson, has also forwarded copies of two letters to you that I have written concerning this matter.

There are many other property owners who share our concerns and who are equally anxious to see that a suitable alternative is found. One that does not involve the taking of private properties, the decimation of the last open space in the Wickford area or pose a disruption to businesses along the proposed route.

Please contact me if you would like to discuss this matter further.

Sincerely,

John H. Lees

CC: Town Manager
NK Planning Dept.
Pare Engineering
V.H.B. Engineering



### State of Chode Island and Providence Plantations

HOUSE OF REPRESENTATIVES
REPRESENTATIVE MELVOID J. BENSON District 32

January 8, 2004

John Lees 11 Prospect Avenue North Kingstown, Rhode Island 02852

Mr. Lees:

I have forwarded the material you sent me to Steve Devine at the RI Department of Transportation, with a request that he make direct contact with you regarding your concerns as to the proposed bike path.

After you are contacted by Mr. Devine or someone from his staff, I would be happy to hear from you as to the substance of your discussion.

Sincereix

Melvoid J. Benson

Représentative - District 32

North Kingstown



### State of Rhode Island and Providence Plantations

HOUSE OF REPRESENTATIVES

REPRESENTATIVE MELVOID J. BENSON District 32

January 8, 2004

Steve Devine RI Department of Transportation Two Capitol Hill Providence, Rhode Island 02903

Mr. Devine:

Enclosed please find copies of two letters that have been forwarded to me by Jack Lees of North Kingstown, relative to the proposed Wickford Junction Bicycle Path.

I have informed Mr. Lees, who has brought this material to my attention, that the ongoing project is not directly within my purview and that I would be forwarding this material to you.

It is my hope that you or someone on your staff will be in direct contact with Mr. Lees to address some of the concerns that he has raised.

Thank you for your attention to this matter.

Sincerely,

Melvoid/J. Benson

Representative - District 32

North Kingstown

December 30, 2003

Re: Proposed Bicycle Paths
Wickford to Quonset &
Wickford Junction to Wickford

To Whom It May Concern:

It is my understanding that RIDOT and the Town of North Kingstown are jointly funding and/or have requested that studies be completed to determine the feasibility of constructing two bicycle paths as described above.

To construct either of the bike paths within the so-called recommended/proposed corridors would require the condemnation or taking of private property, negatively impact the quality of life of many residents and seriously disrupt businesses along either route. Furthermore, the development of these paths would result in the decimation of some of the last open space and wildlife habitat left in the Wickford area or along the proposed routes to the west and north of the Village.

I therefore will not support requests for funding or condone the condemnation or taking of private properties for the purpose of furthering either of these proposals. It is clear to me that the negative impacts far outweigh the benefits of such development.

I would whole heartedly support the development of sidewalks or designated bike paths along roadways, utilizing existing right of ways, if they were determined to be safe, in order to connect neighborhoods and to provide a travel way for pedestrians or bikers to access services and business along such routes.

Sincerely,

Ken Carter

State Representative



June 16, 2003

Scott A. D'Amelio, P.E. Project Manager Vanasse Hangen Brustlin, Inc. 54 Tuttle Place Middletown, CT 06457-1847



Re:

South County Bike Facilities - Site Assessment Project - Contract 1

RI Contract No. 2002-EI-007

Narragansett & North Kingstown, RI

**Utility Determination** 

Dear Mr. D'Amelio:

Enclosed, please find The Narragansett Electric Company's plans for the three (3) study areas as requested by your letter dated May 5, 2003 as listed below and shown in the attached plans:

It appears The Narragansett Electric Company does <u>not</u> have any existing facilities located within the **Wickford Junction to Wickford Village Bike Path** in the town of North Kingstown (as shown in Attachment #1 to Attachment #5).

However, The Narragansett Electric Company does have existing facilities located within the **Davisville Bike Path along Newcomb Road** in the town of North Kingstown. These facilities are overhead, three (3) phase 12.47 kV<sub>Line-to-Line</sub> distribution main line construction {3-477 Aluminum bare primary wire) on cross arms and a 3/C-1/0 Al triplexed secondary cable at 120/240 Volts} (as shown in Attachment #6).

Also, The Narragansett Electric Company does have existing facilities located within the **Narrow River Bike Path** in the Town of Narragansett. These facilities are overhead, three (3) phase 34.4 kV<sub>Line-to-Line</sub> distribution supply line construction known as the **3302 Highline** in the **Sea View R/W** {3-4/0 Copper bare primary wire on cross arms and a 4/0 Copper bare neutral wire} (as shown in Attachment #7).

For more information regarding The Narragansett Electric Company's easement in the Sea View R/W, please contact from our Providence office at 280 Melrose Street:

Michael DiNezza Senior Real Estate Representative 401-784-7209

The Narragansett Electric Company reserves the right to change, relocate or add to our facilities due to changes in our system that may occur and are not anticipated at this time. Should any major changes to our facilities in this area occur before the completion of this project, we will make every effort to notify all interested parties.



We would appreciate being included in any future submissions as changes in the design may impact our facilities.

Please contact me at (401) 267-6712 if you have any questions or comments.

Sincerely,

Thomas A. Capobianco

Thomas A. Capotian

Senior Operations Engineer - Coastal District

Attachments (7)

c: APrata, KFarhoumand, VJPalumbo, SChurch, SDevine, TPMcElroy, LJDudley, MJRhea, (RIDOT) (RIDOT) (RIDOT) (RIDOT) MJDiNezza, RMurray, file #

Services



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May 5, 2003

Ref:

71489.00; 71489.10; 71489.20

Vanasse Hangen Brustlin, Inc.

Barry Fontaine Construction Supervisor Cox Communications 70 Comstock Parkway Cranston, RI 02921

Re:

South County Bike Facilities - Site Assessment Project - Contract 1

RI Contract No. 2002-EI-007

Narragansett & North Kingstown, RI

Utility Determination

Dear Mr. Fontaine:

The Department of Transportation has under study the above referenced project. This project will assess three potential routes for proposed multiuse paths within three designated study areas, two in North Kingstown and the third in Narragansett.

Enclosed, please find two copies of the Location Maps for the three study areas, the Wickford Junction to Wickford Village Bike Path and the Davisville Bike Path along Newcomb Road both within the Town of North Kingstown and the Narrow River Bike Path within the Town of Narragansett. As part of the Site Assessment, we are required to ascertain the location of any existing utility easements and/or facilities along the potential bike path alignments that may affect the preferred location.

Please provide maps or written descriptions of all existing facilities and easements your company may have within the study areas. A copy of this transmittal letter is to be forwarded to the Utilities Engineer, R.I.D.O.T.

If you have any questions or require additional information, please contact me at 401-272-8100.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

P30 Scott A. D'Amelio, P.E.

Project Manager

cc:

Steven Church, (RIDOT) Stephen Devine (RIDOT)

Services



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May 5, 2003

Ref:

71489.00; 71489.10; 71489.20

Vanasse Hangen Brustlin, Inc.

Thomas Gavula
Director of Engineering and Project Management
Providence Gas Company
100 Weybosset Street
Providence, RI 02903

Re:

South County Bike Facilities - Site Assessment Project - Contract 1

RI Contract No. 2002-EI-007

Narragansett & North Kingstown, RI

Utility Determination

Dear Mr. Gavula:

The Department of Transportation has under study the above referenced project. This project will assess three potential routes for proposed multiuse paths within three designated study areas, two in North Kingstown and the third in Narragansett.

Enclosed, please find two copies of the Location Maps for the three study areas, the Wickford Junction to Wickford Village Bike Path and the Davisville Bike Path along Newcomb Road both within the Town of North Kingstown and the Narrow River Bike Path within the Town of Narragansett. As part of the Site Assessment, we are required to ascertain the location of any existing utility easements and/or facilities along the potential bike path alignments that may affect the preferred location.

Please provide maps or written descriptions of all existing facilities and easements your company may have within the study areas. A copy of this transmittal letter is to be forwarded to the Utilities Engineer, R.I.D.O.T.

If you have any questions or require additional information, please contact me at 401-272-8100.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

FD Scott A. D'Amelio, P.E.

Project Manager

cc:

Steven Church, (RIDOT) Stephen Devine (RIDOT)

Services



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May 5, 2003

Ref:

71489.10

Vanasse Hangen Brustlin, Inc.

John D. Smith Supertindent Fire Alarm Narragansett Fire Department 40 Caswell Street Narragansett, RI 02882

Re:

South County Bike Facilities - Site Assessment Project - Contract 1

RI Contract No. 2002-EI-007

Narragansett & North Kingstown, RI

Utility Determination

Dear Mr. Smith:

The Department of Transportation has under study the above referenced project. This project will assess three potential routes for proposed multiuse paths within three designated study areas, two in North Kingstown and the third in Narragansett.

Enclosed, please find two copies of the Location Maps for the Narragansett study area, the Narrow River Bike Path. As part of the Site Assessment, we are required to ascertain the location of any existing utility easements and/or facilities along the potential bike path alignment that may affect the preferred location.

Please provide maps or written descriptions of all existing facilities and easements your company may have within the study areas. A copy of this transmittal letter is to be forwarded to the Utilities Engineer, R.I.D.O.T.

If you have any questions or require additional information, please contact me at 401-272-8100.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

PC Scott A. D'Amelio, P.E.

Project Manager

cc:

Steven Church, (RIDOT) Stephen Devine (RIDOT)



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May 5, 2003

Ref:

71489.00; 71489.20

Vanasse Hangen Brustlin, Inc.

Chief William Bonneau North Kingstown Fire Department 8150 Post Road North Kingstown, RI 02852

Re:

South County Bike Facilities - Site Assessment Project - Contract 1

RI Contract No. 2002-EI-007

Narragansett & North Kingstown, RI

Utility Determination

Dear Mr. Bonneau:

The Department of Transportation has under study the above referenced project. This project will assess three potential routes for proposed multiuse paths within three designated study areas, two in North Kingstown and the third in Narragansett.

Enclosed, please find two copies of the Location Map for the two study areas within North Kingstown, the Wickford Junction to Wickford Village Bike Path and the Davisville Bike Path along Newcomb Road. As part of the Site Assessment, we are required to ascertain the location of any existing utility easements and/or facilities along the potential bike path alignments that may affect the preferred location.

Please provide maps or written descriptions of all existing facilities and easements your company may have within the study areas. A copy of this transmittal letter is to be forwarded to the Utilities Engineer, R.I.D.O.T.

If you have any questions or require additional information, please contact me at 401-272-8100.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

FD0

Scott A. D'Amelio, P.E.

Project Manager

cc:

Steven Church, (RIDOT)

Stephen Devine (RIDOT)



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May 5, 2003

Ref:

71489.00; 71489.10; 71489.20

Vanasse Hangen Brustlin, Inc.

Robert D Sheridan Manager of Engineering Narragansett Electric Company 280 Melrose Street Providence, RI 02901

Re:

South County Bike Facilities - Site Assessment Project - Contract 1

RI Contract No. 2002-EI-007

Narragansett & North Kingstown, RI

Utility Determination

Dear Mr. Sheridan:

The Department of Transportation has under study the above referenced project. This project will assess three potential routes for proposed multiuse paths within three designated study areas, two in North Kingstown and the third in Narragansett.

Enclosed, please find two copies of the Location Maps for the three study areas, the Wickford Junction to Wickford Village Bike Path and the Davisville Bike Path along Newcomb Road both within the Town of North Kingstown and the Narrow River Bike Path within the Town of Narragansett. As part of the Site Assessment, we are required to ascertain the location of any existing utility easements and/or facilities along the potential bike path alignments that may affect the preferred location.

Please provide maps or written descriptions of all existing facilities and easements your company may have within the study areas. A copy of this transmittal letter is to be forwarded to the Utilities Engineer, R.I.D.O.T.

If you have any questions or require additional information, please contact me at 401-272-8100.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

Scott A. D'Amelio, P.E.

Project Manager

CC:

Steven Church, (RIDOT)

Stephen Devine (RIDOT)

John A. Scungio, Jr. (RIDOT Utilities)

Ronald A. Racine, Operations Manager – (Narragansett Electric Company)

www.vhb.com



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May 5, 2003

Ref:

71489.00; 71489.10; 71489.20

Vanasse Hangen Brustlin, Inc.

Anthony Filomeno State Highway Coordinator Bell Atlantic-Rhode Island 85 High Street Pawyucket, RI 02865

Re:

South County Bike Facilities - Site Assessment Project - Contract 1

RI Contract No. 2002-EI-007

Narragansett & North Kingstown, RI

Utility Determination

Dear Mr. Filomeno:

The Department of Transportation has under study the above referenced project. This project will assess three potential routes for proposed multiuse paths within three designated study areas, two in North Kingstown and the third in Narragansett.

Enclosed, please find two copies of the Location Maps for the three study areas, the Wickford Junction to Wickford Village Bike Path and the Davisville Bike Path along Newcomb Road both within the Town of North Kingstown and the Narrow River Bike Path within the Town of Narragansett. As part of the Site Assessment, we are required to ascertain the location of any existing utility easements and/or facilities along the potential bike path alignments that may affect the preferred location.

Please provide maps or written descriptions of all existing facilities and easements your company may have within the study areas. A copy of this transmittal letter is to be forwarded to the Utilities Engineer, R.I.D.O.T.

If you have any questions or require additional information, please contact me at 401-272-8100.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

ె<sup>ఎ</sup> Scott A. D'Amelio, P.E.

Project Manager

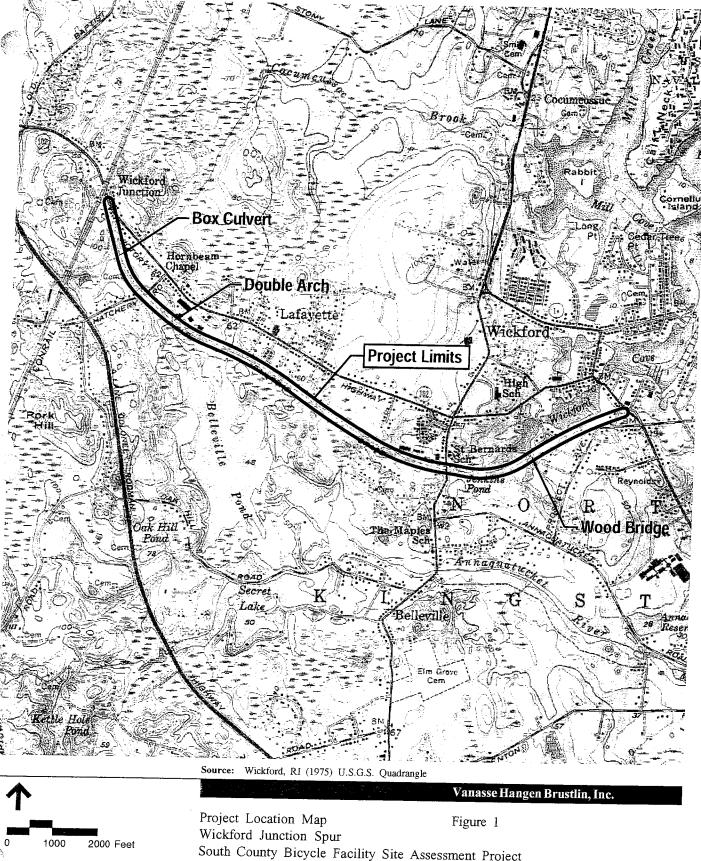
cc:

Steven Church, (RIDOT)

Stephen Devine (RIDOT)

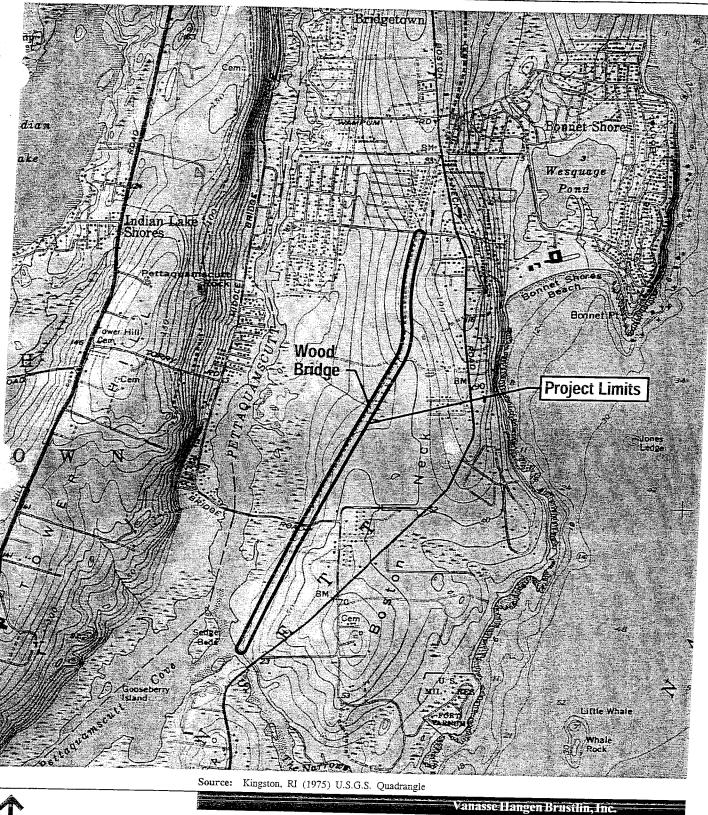
John A. Scungio, Jr. (RIDOT Utilities)

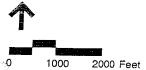
Gilbert Pemberton, Senior Project Engineer – (Bell Atlantic-Rhode Island)



South County Bicycle Facility Site Assessment Project North Kingstown, Rhode Island

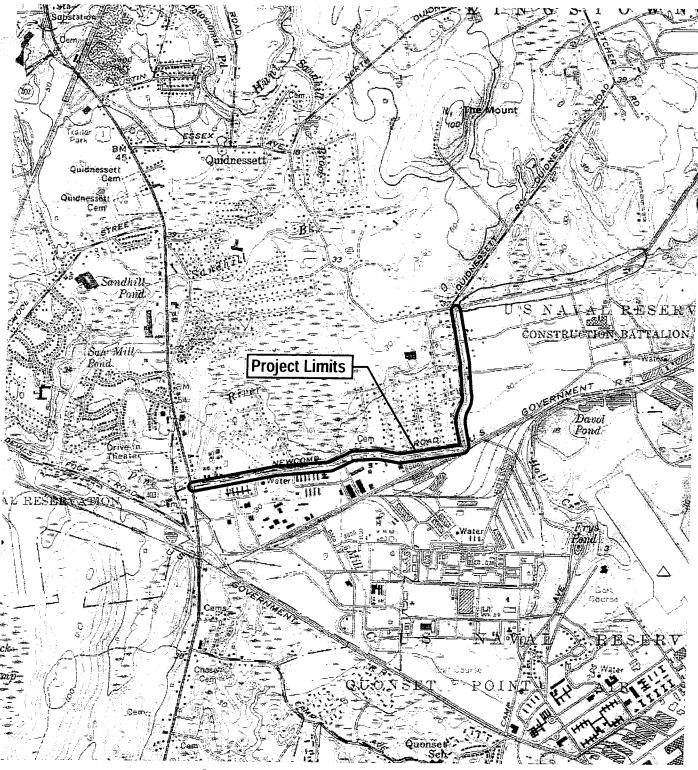
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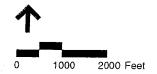


Project Location Map Figure 2
Narrow River Bikepath
South County Bioyele Facility Six 4

South County Bicycle Facility Site Assessment Project Narragansett, Rhode Island



Source: Wickford, RI (1975) U.S.G.S. Quadrangle



Project Location Map Figure 3
Davisville Bicycle Path
South County Bicycle Facility Site Assessment Project
North Kingstown, Rhode Island

Vanasse Hangen Brustlin, Inc.



#### Vanasse Hangen Brustlin, Inc.

530 Broadway Providence, Rhode Island 02909 401 272-8100

FAX 401 273-9694

#### Meetina **Notes**

Attendees:

Steve Devine, RIDOT

Steve Church, RIDOT

Marilyn Cohen, North

Kingstown

Rebecca Pellerin, North

Kingstown

Dennis Browchuck, North

Kingstown

Scott D'Amelio, VHB

Project No.: 70489

Date/Time: 01-07-03 / 2:30 pm

Place: North Kingstown Planning

Department

Wickford Junction Bikeway Re:

Notes taken by: S. D'Amelio

- 1. The purpose of the meeting was to introduce the Bikepath Design Study Team to the Town Planning and Engineering staff and to discuss the project concept and schedule.
- 2. Steve Devine gave a brief overview of the project history, TIP application, proposal process, consultant selection, etc. Steve also explained that while this project has been approved for study, this does not mean it will be approved for final design and construction.
- 3. Design study phase is scheduled to be complete in one (1) year.
- 4. Planning Department produced a plan indicating Town-owned property and open space. This plan indicated approximately half of the former railroad ROW is owned by the Town. Marilyn suggested the project look at connecting to the Town road named Loop Road and connect to Phillips Street near Boone Street. Boone Street may be the location of a future bikeway connecting to QP/D. Marilyn believes an abutting property owner will allow the connection from the railroad ROW to Loop Road.
- 5. A previous study was completed that provided some alternative alignments. This was a study prior to the Brown student's study of 2002. Steve Church thought he remembered and would check files.
- 6. Marilyn thought the former Lafayette Mill and/or IDI Manufacturing may have Haz Mat issues.
- 7. Marilyn will send copy of fact sheet to the Town Administrator for next council meeting. Bikeway packet would be for informational purposes only, but may be observed by the newspapers.

Date: 01-07-03 / 2:30 pm

Project No.: 70489:

#### Discussed the Davisville Bikeway Project:

- 1. Outlined the proposed route established by RIEDC.
- 2. Ultimate connection is to Calf Pasture. North Kingstown has a RIDEM grant for some improvements to Calf Pasture. No vehicle access to Calf Pasture so no parking facilities.
- 3. Regional bikeway connection from QP/D to the north may not be accepted by Fletcher Road neighborhood.
- 4. Perhaps RIEDC Phase II bikeway should be added to the Phase I study being completed.



#### Town of North Kingstoyun 2: 11

Rhode Island

No. 7

TOWN COUNCIL

David R. Bumham Council President

Patricia Beauchamp Council Member

Kenneth C. D'Ambrosio Council Member

Dale M. Grogan Council Member

Robin Porter
Council Member

February 14, 2000

At the Regular Meeting of the Town Council of the Town of North Kingstown held on

February 14, 2000, following a Public Hearing, it was

1 2004

JUN

VOTED: To recommend for consideration, adoption, and inclusion in the Fiscal Year

2001-2002 Transportation Improvement Program (TIP) the following project priorities:

#### Reconstruction or Construction of Roads

- Routes 4/1 Interchange
  - The Route 138 cloverleaf should be constructed.
  - The difficulties around the Shady Lea Road intersection at the junction of Routes 4/1 need to be resolved.
  - The property acquisitions for this interchange particularly need to be completed, specifically regarding the Ottaviano property, before further development takes place that will increase the costs of acquisition.
- Quonset Access Road Funding for both Phases I and II

#### Study and Development

- Routes 4/1 Intersection
- Post Road West Main Street to Maxwell Drive
- Wickford Junction to Wickford Village Bikeway

#### Resurfacing

In order of priority:

- 1. Brown Street and West Main Street/1A
- 2. Tower Hill Road Route 4 to West Main Street/1A
- 3 Quonset Internal Circulation Smith Street, Jones Road, Thompson Road, and Northrup Road
- 4. Route 2 Route 102 to the East Greenwich Town Line
- 5. Slocum Road

#### Intersection Improvements

- Route 102/Route 1
- Stony Lane and Post Road

#### Transit Improvements and Ridesharing Programs

Wickford Junction Commuter Rail Station - Construction

#### Bicycle/Pedestrian Projects

- Wickford to Quonset Bikeway Construction
- Jamestown-Verrazano Bridge Bikeway Development

#### Other

- Jamestown Bridge Demolition and Fishing Pier Development
- Hussey Bridge Maintenance/Restoration

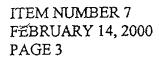
#### Corridor Preservation

- Cruikshank Property
- Davis Estate

and it was

FURTHER VOTED: That the Town Council endorses the following Rhode Island Economic Development Corporation Quonset/Davisville Transportation Improvement Project submissions:

- 1. Davisville Road Improvements: Includes resurfacing with 12' travel lanes and 4' bike lanes, minor drainage improvements, information center, and security gate improvements.
- 2. Intermodal Center: Feasibility study that expands upon draft Master Plan recommendations.
- 3. Davisville Bike Path: Post Road to Fletcher Road segment. Includes some buffer plantings.



4. Rail Line Rehabilitation. West Davisville Main Line (from Amtrak main line to switch), Quonset Main Line (from switch to Carrier Pier), and Davisville Main Line (from switch to Pier 1).

Yames D. Marques, CMC Town Clerk

# VEHICLE ACCIDENT SUMMARY

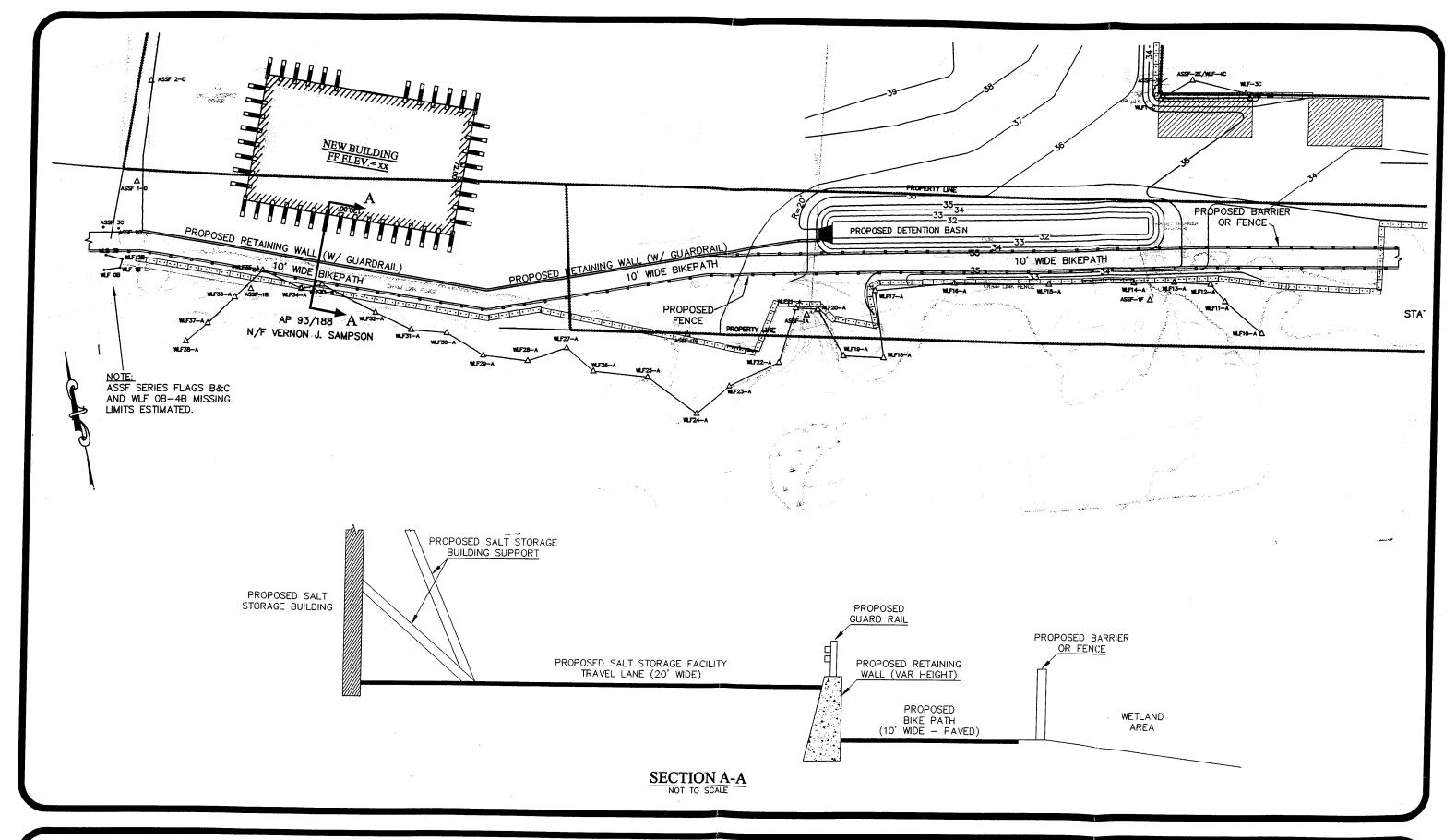
Table Vehicle Accident Summary (2000-2002)

·	Ten Rod Road (Rte 102) & Quaker Lane	Ten Rod Road (Rte 102) & Lafayette Road	Boston Neck Road (Rte 1A) from Brown St. to Earle Dr.
<u>Year</u> 2000 2001 <u>2002</u> Total	7 4 <u>9</u> 20	2 2 <u>1</u> 5	22 20 <u>18</u> 60
Collision Type Rear end Angle Head-on Fixed Object Pedestrian Sideswipe Animal Unknown Total	9 6 2 3 0 0 0 0 0	3 2 0 0 0 0 0 0 0	26 10 7 8 2 2 2 2 3 60
Severity Property Damage Only Personal Injury Fatality Unknown Total	16 3 0 <u>1</u> 20	3 2 0 0 0 5	38 20 0 <u>2</u> 60
<u>Time of Day</u> 7:00-9:00 AM 4:00-6:00 PM <u>Other</u> Total	3 7 <u>10</u> 20	0 0 <u>5</u> 5	4 13 <u>43</u> 60
<u>Day of Week</u> Weekday <u>Saturday/Sunday</u> Total	17 <u>3</u> 20	3 <u>2</u> 5	45 <u>15</u> 60

Source: North Kingstown Police Department

Garofalo Plan @ RIDOT Maint. Facility

### GAROFALO PLAN AT THE RIDOT MAINTENANCE FACILITY





BELLEVILLE MAINTENANCE FACILITY

NORTH KINGSTOWN, RI

PROPOSED BIKEPATH LOCATION/CROSS—SECTION

SCALE: 1"=50' (OR AS NOTED)

FIGURE 5

Cost Estimate Summary

#### **COST ESTIMATE SUMMARY**

ITEM	QUANTITY	UNIT COST	соѕт
A. PAVEMENT			
12800 New Multi Use Path (ft)			
1. Bituminous Concrete (4")	3,277 T	\$70	\$229,376
2. Subbase (10")	3,955 CY	\$15	\$59,328
3. Furnishing Topsoil & Seeding	28,416 SY	.\$5	\$142,080
4. Aggregate Shoulder (6")	947 CY	\$30	\$28,416
5. Earthwork	6,477 CY	\$30 <sub>_</sub>	\$194,304
SUBTOTAL			\$653,504
B. STRUCTURES			
Box Culvert Replacement over Annaquatucket River	1 EA	\$60,000	\$60,000
2. Repair to two Stone Arch Bridges	2 EA	\$15,000	\$30,000
Repair to Stone Box Culvert	1 EA	\$21,000	\$21,000
4. Timber Bridge Rehabilitation	1 EA	\$64,000	\$64,000
5. Retaining Wall Along Belleville Maintenance Facility (MSE)	4000 SF	\$40	\$160,000
6. Retaining Wall behind Wickford Lumber (CIP)	2000 SF	\$85	\$170,000
7. Boardwalk Approach to Beach Street	200 LF	\$1,150_	\$230,000
SUBTOTAL		_	\$735,000
C. OTHER FEATURES			
1. Privacy Screening	200 LF	\$100	\$20,000
2. Sedimentation Control	12,800 LF	\$4	\$51,200
3. Railings at Bridge & Ret. Wall Structures	710 LF	\$50	\$35,500
4. Trailhead Construction	1 LS	\$40,000	\$40,000
5. Traffic Pedestrian Signal	1 EA	\$50,000	\$50,000
6. Chain Link Fencing	600 LF	\$20	\$12,000
7. Crosswalk Treatment	3 EA	\$1,000	\$3,000
8. Landscaping	1 LS	\$10,000	\$10,000
SUBTOTAL		=	\$221,700
TOTAL COSTS			\$1,610,204
D. MINOR ITEMS	20% of	\$1,610,204	\$322,041
SUMMARY OF COSTS		***************************************	
SUBTOTAL CONTRACT ITEMS			\$1,932,245
LUMP SUM ITEMS		000.045	ŀ
Clearing and Grubbing 2%		\$38,645	
M&P of Traffic 2%		\$38,645	
Mobilization 7.5%		\$144,918	
Construction Staking 1.0%		\$19,322	
Subtotal			\$241,531
SUBTOTAL CONTRACT ITEMS			\$2,173,775
Incidentals / Contingencies 20%			\$434,755
Design & Engineering Services 22%			\$478,231
Utilities 2%			\$43,476
TOTAL COSTS			\$3,130,237

Crossing & Stopping Sight Distance

# CROSSING AND STOPPING SIGHT DISTANCE CHARTS

# Trail Intersection Design Guidelines

Wayne E. Pein 🤝

# Prepared for

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# Sight distance

# Pedestrians

Since they are the slowest trail users, providing intersection sight distance for pedestrians encompasses the requirements of bicyclists (and skaters). Table 9 gives pedestrian intersection sight distance values.

Table 9. Pedestrian intersection crossing sight distance.

	80 km/h (50 mi/h)	e value	173	193	215	235	255	278	298	318	341	361	383
Design speed	64 km/h (40mi/h)	Crossing sight distance value (d); m	138			188	204	222	238	254	272	289	306
Õ	48 km/h (30 mi/h)	Crossing	104	116	129	141/	153	167	179	191	204	216	230
Crossing time (t);	sec (includes 3 0 sec	p-r time)	7.7	9.8	9.6	10.5	11.4	12.4	13.3	14.2	15.2	16.1	17.1
Crossing width	(S); m		5.0	0.9	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0

A walking rate of 1.07 m/s (3.5 ft/s) and a perception-reaction time of 3 seconds are assumed. As with bicyclists, an additional 2 seconds of crossing time may be added for each group of 5.

Because of their slow crossing speed, and/or other situational constraints (right-of-way; sight restrictions; wide road; high speed), it may be impossible to provide pedestrians with intersection sight distance. Pedestrians should then be accommodated by decreasing the crossing distance with a refuge area or bulbout, slowing the motor vehicles, or providing signalization.

# Decision sight distance

As traditionally applied to motorists, decision sight distance provides additional protection beyond the minimum afforded by stopping sight distance. It is defined as "the distance required for a driver to detect an unexpected or otherwise difficult-to-perceive information source or hazard in the roadway environment that may be visually cluttered, recognize the hazard or its threat potential, select the appropriate speed and path, and initiate and complete the required safety maneuver safely and efficiently."

A trail crossing, often an unusual encounter for drivers, seems to be an ideal location to provide motorists with additional sight distance. This can be done by increasing the standard perception-reaction time value of 2.5 seconds for motorists'

# Sight distance

$$t = (\frac{1}{v})S + (\frac{v}{2a} + \frac{1.8}{v})$$
 (3)

The 15th percentile values found on the Pinellas Trail, v = 10.8 km/h (2.99 m/s; 6.7 mi/h) and a = 0.74 m/s² (2.4 ft/s²), compare favorably to the values specified by the Dutch in  $Sign\ Up\ For$  the Bike,  $10.0\ km/h$  (6.2 mi/h) and  $0.8\ m/s^2$  (2.6 ft/s²).

Using equation (3) with  $a = 0.74 \text{ m/s}^2$  and v = 2.99 m/s to determine crossing time for various crossing widths S, and then equation (2) (page 3-21), Table 8 gives bicyclist crossing sight distance values. A perception-reaction time of 2.5 seconds is also included.

Use of 15th percentile values for acceleration and crossing velocity when designing intersections for bicyclists is consistent with accepted transportation engineering practice of providing for the vast majority of roadway users. It can be argued, however, that it is improper to disregard the slowest of bicyclists. Perhaps choosing a more inclusionary percentile such as the 5th percentile would be prudent under certain circumstances. An additional 2 seconds of crossing time may also be added for every group of 5 users to account for delayed startup and friction.

Designers of multi-use trail-roadway intersections are also faced with accommodating the slowest of users—pedestrians.

Table 8. Bicyclist intersection crossing sight distance.

111 112 12 12 12 12 12 12 12 12 12 12 12	gu	Crossing time (t);	I	Design speed	q
6.8 91 7.1 95 7.4 99 7.8 10 8.1 10 8.5 11 0 8.8 110 0 9.1 12		ludes	48 km/h (30 mi/h)	64 km/h (40mi/h)	80 km/h (50 mi/h)
6.8 7.1 7.4 7.8 7.8 1 8.1 1 8.5 0 9.1 1 9.5	p-r t	ime)	Crossinĝ	Crossing sight distance value (d); m	ice value
7.1 7.4 7.8 7.8 8.1 8.5 0 8.8 0 9.1 1	8.9		91	122	152
7.4 7.8 7.8 0 8.1 1 0 8.8 0 9.1 0	7.1		95	127	159
7.8 8.1 0 8.8 0 9.1	7.4		66	132	166
8.1 0 8.8 0 9.1 0 9.5	7.8		105	140	175
8.5 8.8 9.1 1	8.1		109	145	181
8.8 9.1 19.5	8.5		114	152	190
9.1	8.8		118	158	197
	9.1		122	163	204
	9.5		127	170	213
14.0   9.8   13.	8.6		132	176	220
15.0   10.1   136	10.1		136	181	226

(1m = 3.28 ft)

		Metric					US Customary	>	
	Brake	Braking	Stopping sight distance	t distance		Brake	Braking	Stopping sight distance	t distance
Design	reaction	distance			Design	reaction	distance	2	
peeds	distance	on level	Calculated	Design	peeds	distance	on level	Calculated	Design
(km/h)	(m)	(m)	(m)	(m)	(mph)	(#)	(£)	(ft)	Ê
20	13.9	4.6	18.5	20	15	55.1	21.6	76.7	80
30	20.9	10.3	31.2	35	20	73.5	38.4	111.9	115
40	27.8	18.4	46.2	50	25	91.9	0.09	151.9	155
20	34.8	28.7	63.5	65	30	110.3	86.4	196.7	200
09	41.7	41.3	83.0	85	35	128.6	117.6	246.2	250
2	48.7	56.2	104.9	105	40	147.0	153.6	300.6	305
80	55.6	73.4	129.0	130	45	165.4	194.4	359.8	360
06	62.6	92.9	155.5	160	20	183.8	240.0	423.8	425
100	69.5	114.7	184.2	185	25	202.1	290.3	492.4	495
110	76.5	138.8	215.3	220	09	220.5	345.5	566.0	570
120	83.4	165.2	248.6	250	65	238.9	405.5	644.4	645
130	90.4	193.8	284.2	285	20	257.3	470.3	727.6	730
					75	275.6	539.9	815.5	820
					8	294.0	614.3	908.3	910
Note: Brak calculated s	Note: Brake reaction distano calculated sight distance.	tance predic	sated on a time	of 2.5 s; dec	seleration rat	te of 3.4 m/s <sup>2</sup>	[11.2 ft/s²] u:	e predicated on a time of 2.5 s; deceleration rate of 3.4 m/s $^2$ [11.2 ft/s $^2$ ] used to determine	Ф

Exhibit 3-1. Stopping Sight Distance